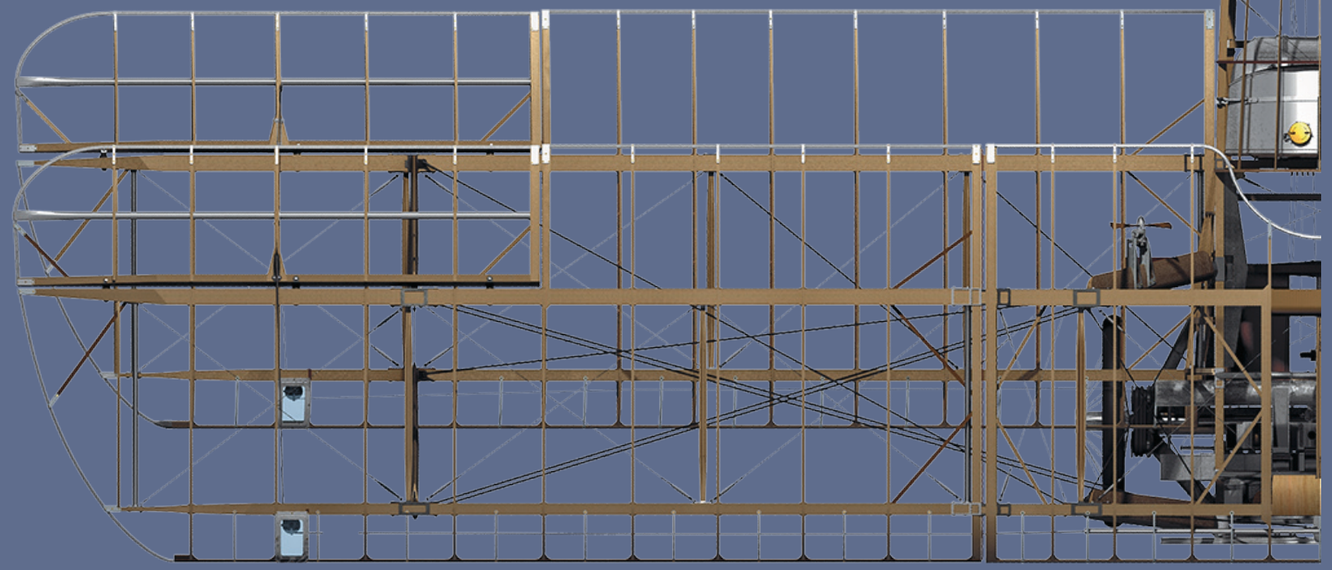
Sopwith Camel F1

For those who want to know
everything behind the linen

”Stripped“

Full detailed documentation of this famous British fighter aircraft from the first world war.



By Martin Koopman

Sopwith Camel F1

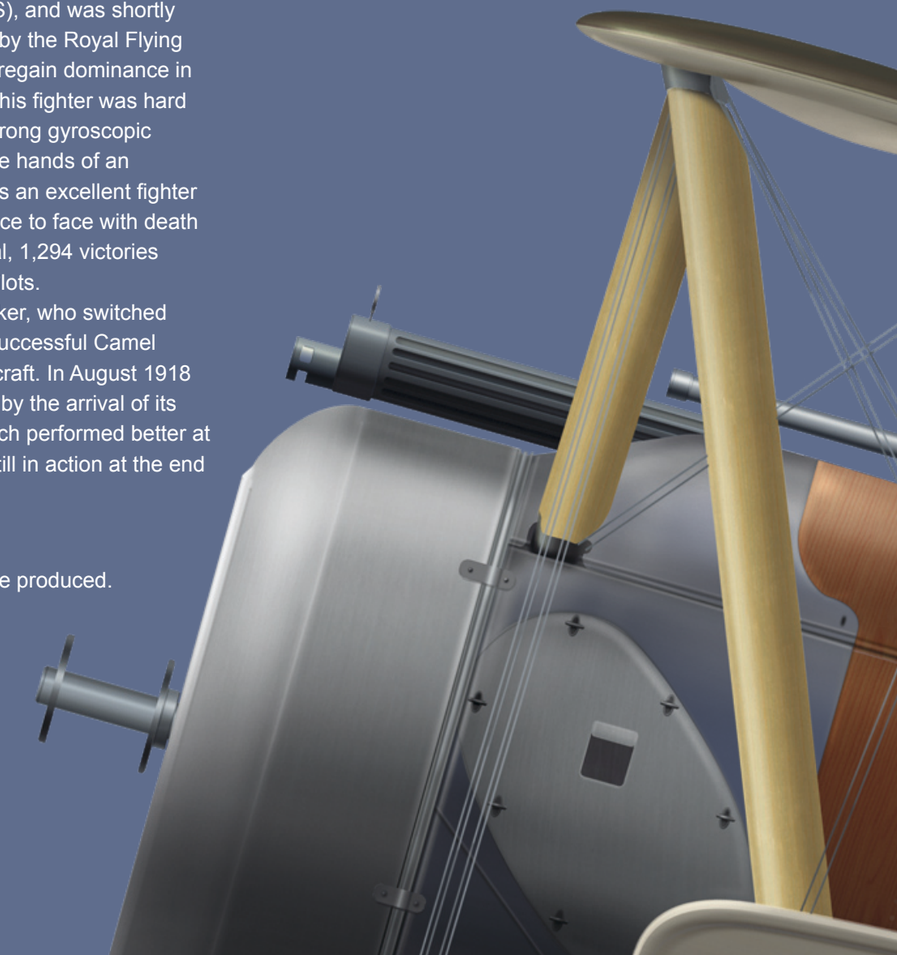
Developed by the Sopwith Aviation Company, the prototype Sopwith F.1 Camel fighter aircraft made its maiden flight in December 1916.

With the arrival of the Camel, replacing the Sopwith Pup and Triplane, the firepower of Sopwith fighters doubled, through the provision of two .303 inch Vickers machine guns. This new fighter was also highly manoeuvrable.

The majority of Camels were powered by 130/140hp Clerget rotary engines, which could pull the Camel to an altitude of 10,000 ft in under 10 minutes and 35 seconds. At this altitude it had a speed of 112 miles per hour. In June 1917 the Camel was operational with the Royal Naval Air Service (RNAS), and was shortly thereafter also brought into action by the Royal Flying Corps (RFC), helping the Allies to regain dominance in the Western European airspace. This fighter was hard to control, largely caused by the strong gyroscopic forces of the rotary. However, in the hands of an experienced and skilled pilot, it was an excellent fighter plane. Many trainee pilots stood face to face with death trying to control this aircraft. In total, 1,294 victories were claimed by Sopwith Camel pilots.
The Canadian soldier, William Barker, who switched to the RFC, was one of the most successful Camel pilots. In total he shot down 46 aircraft. In August 1918 the Camel was made obsolescent by the arrival of its successor, the Sopwith Snipe, which performed better at higher altitudes. The Camel was still in action at the end of World War I.

In total 5,500 Sopwith Camels were produced.

By Martin Koopman
www.mb-koopman.nl

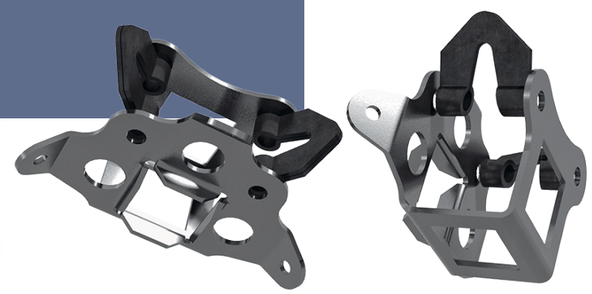


The illustrations

This is a picture book. Through the illustrations the construction and assembly of the Sopwith F.1 Camel is revealed. The construction is reasonably representative for English aircraft built during the 1914-1918 period. The Sopwith Camel is divided into several divisions/ sections, fuselage, empennage, fin & rudder, undercarriage, skid, tanks and ammo magazines, centre section, upper wing, lower wing and cockpit.

The engine and armament are not depicted, as they are not a direct part of the construction. These parts were produced by other manufacturers. In a way the same applies to the instruments, pumps and valves etc, although these are described in the cockpit chapter. These parts are illustrated the best way possible, but original technical drawings are lacking. All other illustrations have been reconstructed in 3D using the original factory technical drawings. Due to this, a clear picture of the Sopwith Camel “behind the linen” is created. On page 3 the complete aircraft is shown, divided into the sections mentioned above. By clicking the name of the section, a general view appears, that is sub-divided into part numbers which correspond with the numbers used in the original construction drawings.

By clicking a number of the part in the section this part, will be shown. Not every part is depicted separately, but in the compilations every part is clearly visible. Some parts are shown from different angles, thus giving a clear picture of the construction. Many parts used in this aircraft, except for their dimensions, are in form and construction similar; and are therefore depicted only once. On each page there is the possibility to return to the overview, or to the beginning of the last selected group. In the appendix the Sopwith Camel, as an overall picture, is shown in three views. The materials used are rough and somewhat exaggerated to give a clear picture of these parts.



Cockpit

Fuselage

Fin, Rudder and Stabiliser

TailSkid

TopWing

Centre Section

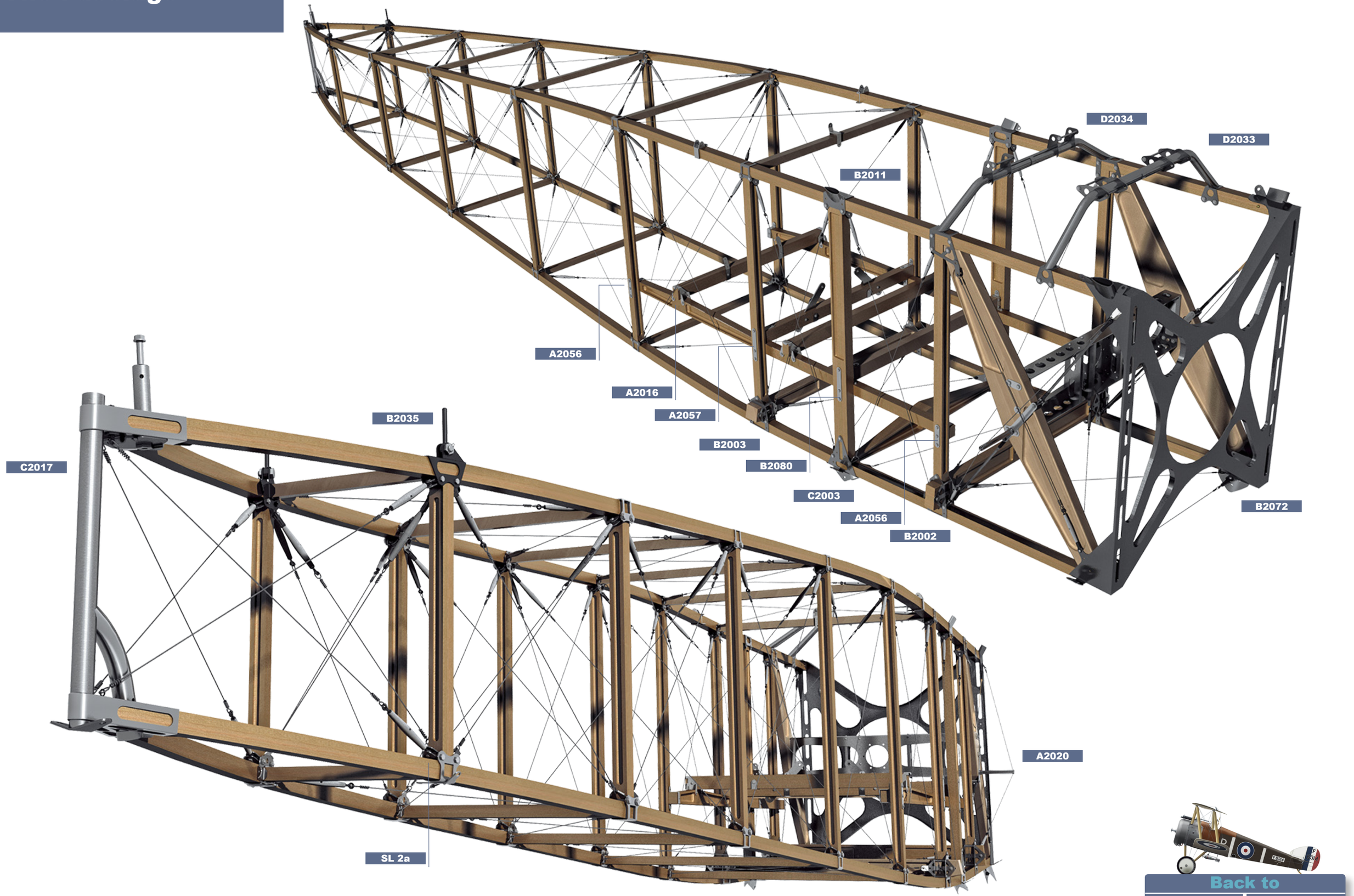
Tank & Ammo Magazines

Undercarriage

FlyingSystem

LowerWing

The Fuselage



Back to
Total | Section

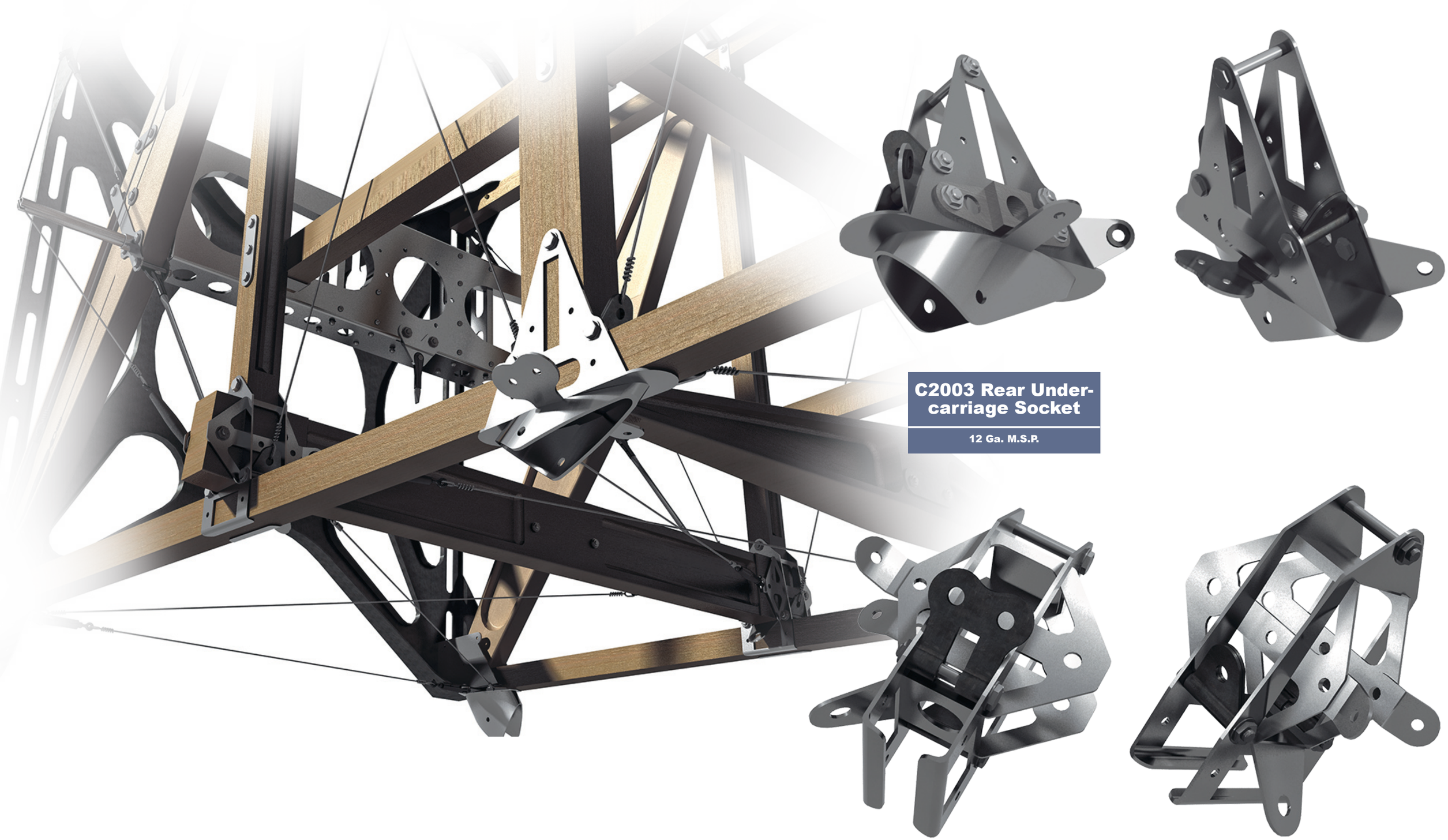
A2016 Seat & Tank Bearer Clip

18 Ga. Dural

SL2a Box Fitting

16 Ga. M.S.P.

Back to Total Section



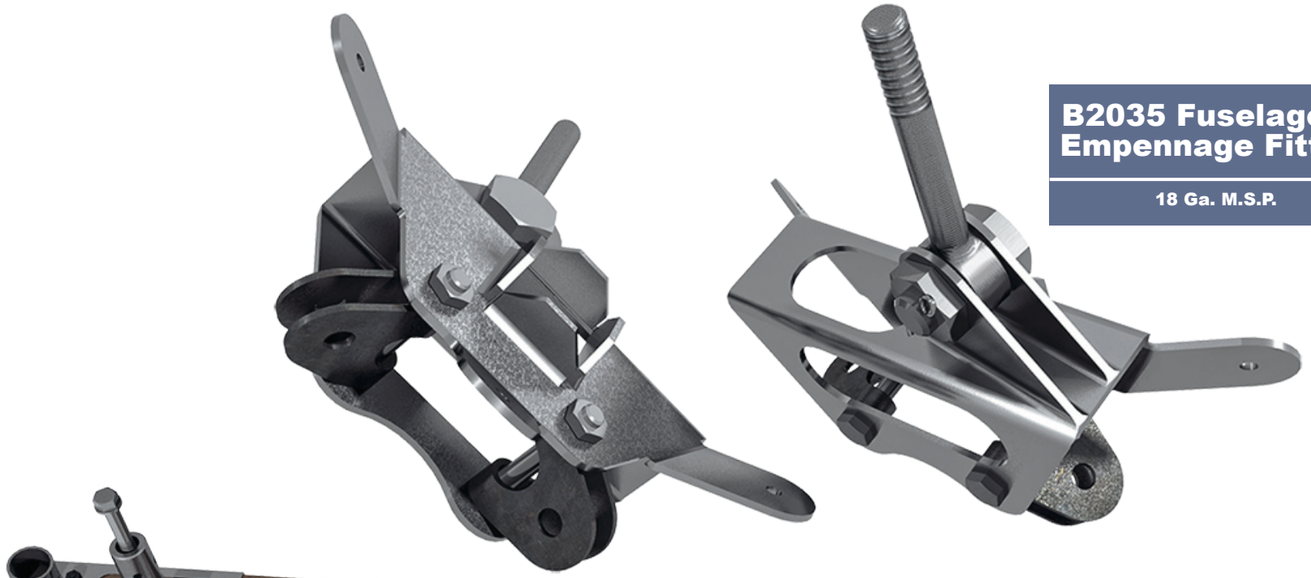
C2003 Rear Under-carriage Socket

12 Ga. M.S.P.

B2002 (B2003) Bottom Plate Front Spar Housing

Box 18 Ga. M.P.S.
Plates 16 Ga. M.P.S.

Back to
Total | Section



B2035 Fuselage to Empennage Fitting

18 Ga. M.S.P.

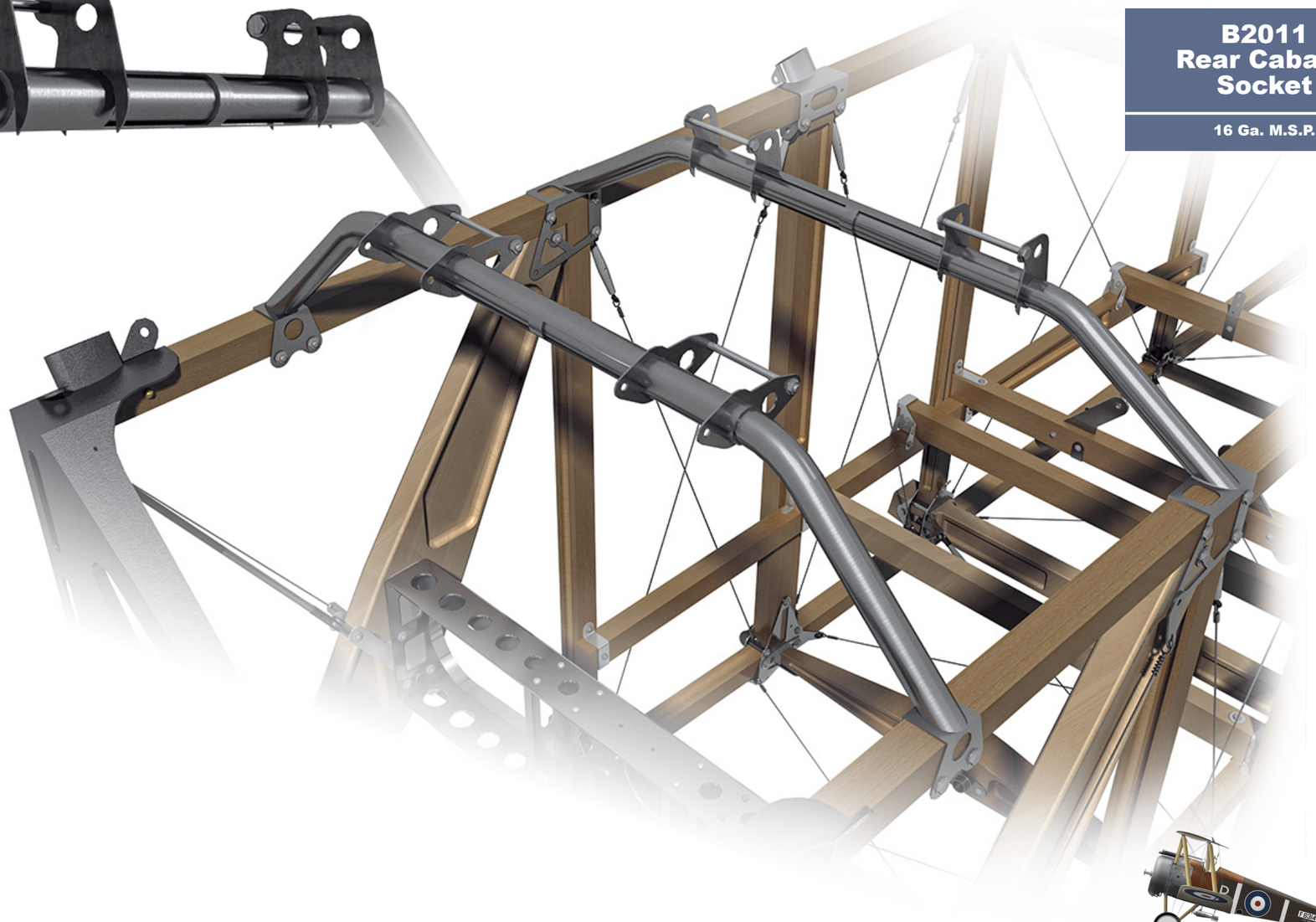
TailPost C2017 and Fittings

Plate material 16 Ga. M.S.P.
SternPostPipe 17Ga. M.S.P.

Back to
Total | Section

D2033
Front Gun Mount

Plate material 18 Ga. M.S.P.
Tube 7/8 x 17 Ga.



B2011
Rear Cabane Socket

16 Ga. M.S.P.

D2034
Rear Gun Mount

Plate material 18 Ga. M.S.P.
Tube 7/8 x 17 Ga.

Back to
Total | Section

A2021/2024 In and Outside Cover Plate Engine Mount

16 Ga. Dural

A2020 King Post

Plate material 18 Ga. M.S.P.
Steel Tube 1/2” x 22 Ga.

D2029 Back Engine Plate

16 Ga. M.S.P.

Back to
Total | Section

A2057
Seat Bearer Clip

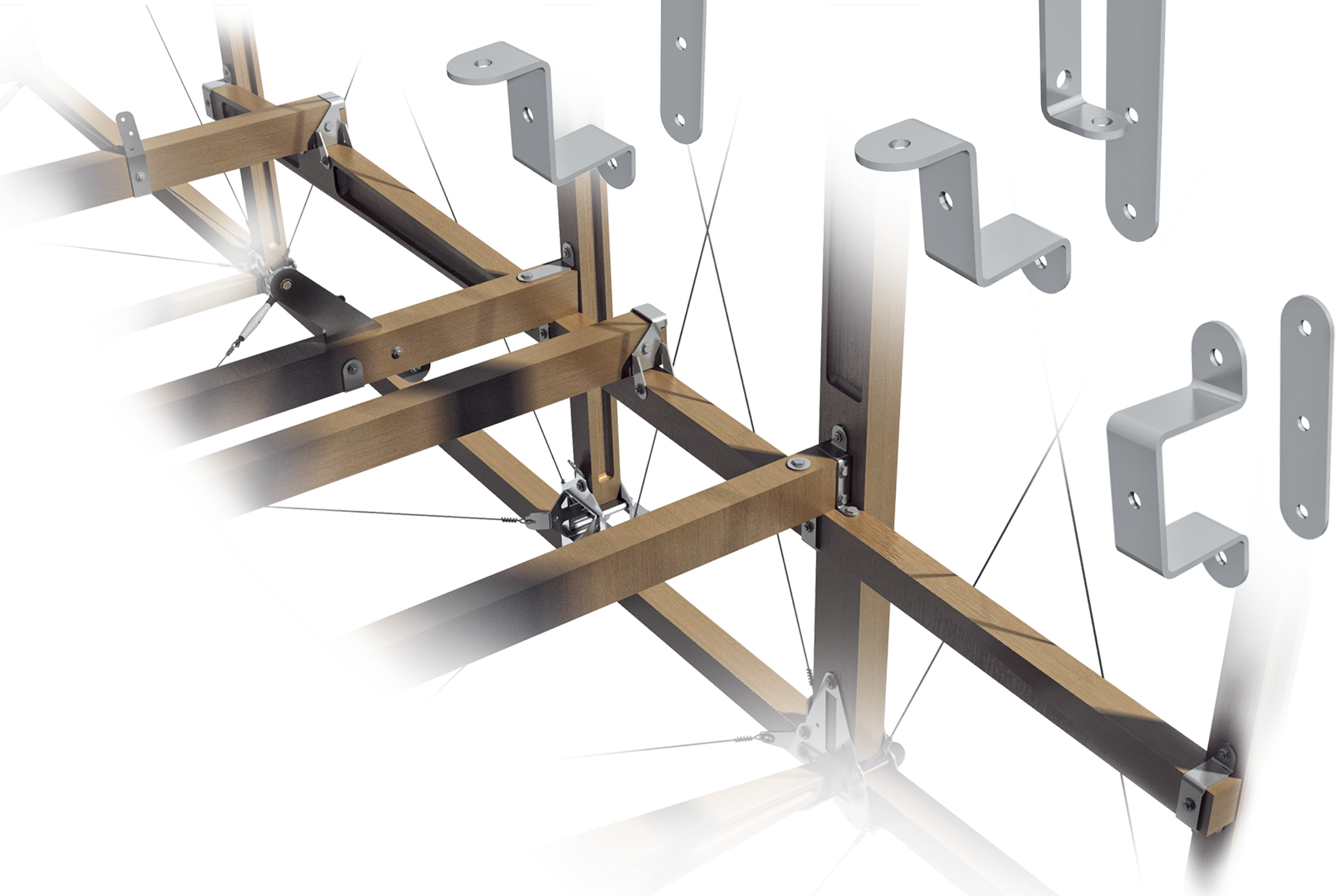
16 Ga. Dural

B2080
Seat Bearer Clip

16 Ga. Dural

A2056
Seat Bearer Clip

16 Ga. Dural



Back to
Total | Section

Front Cabane Socket

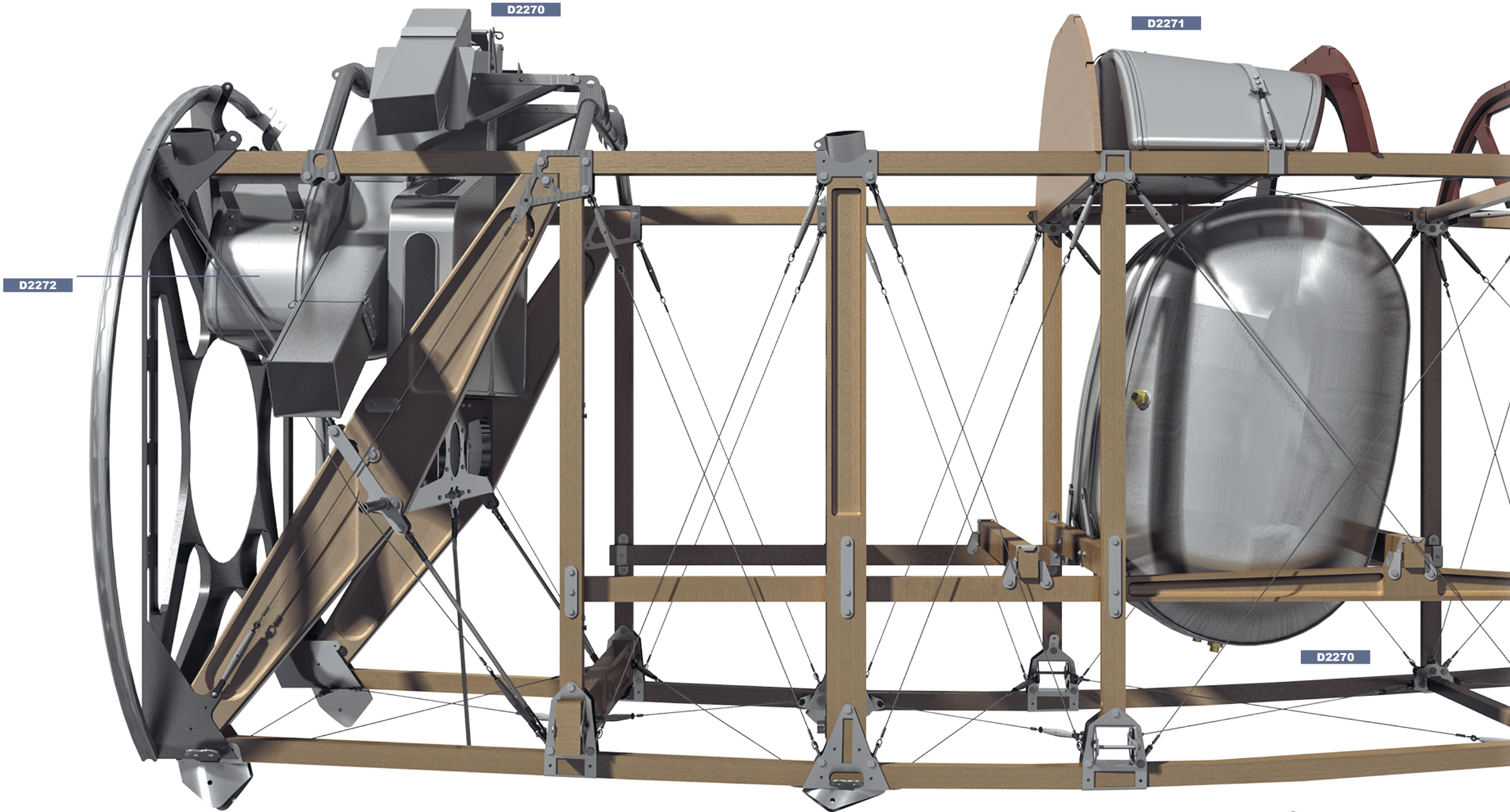
16 Ga. M.S.P.

B2072 Detachable Under-carriage Socket

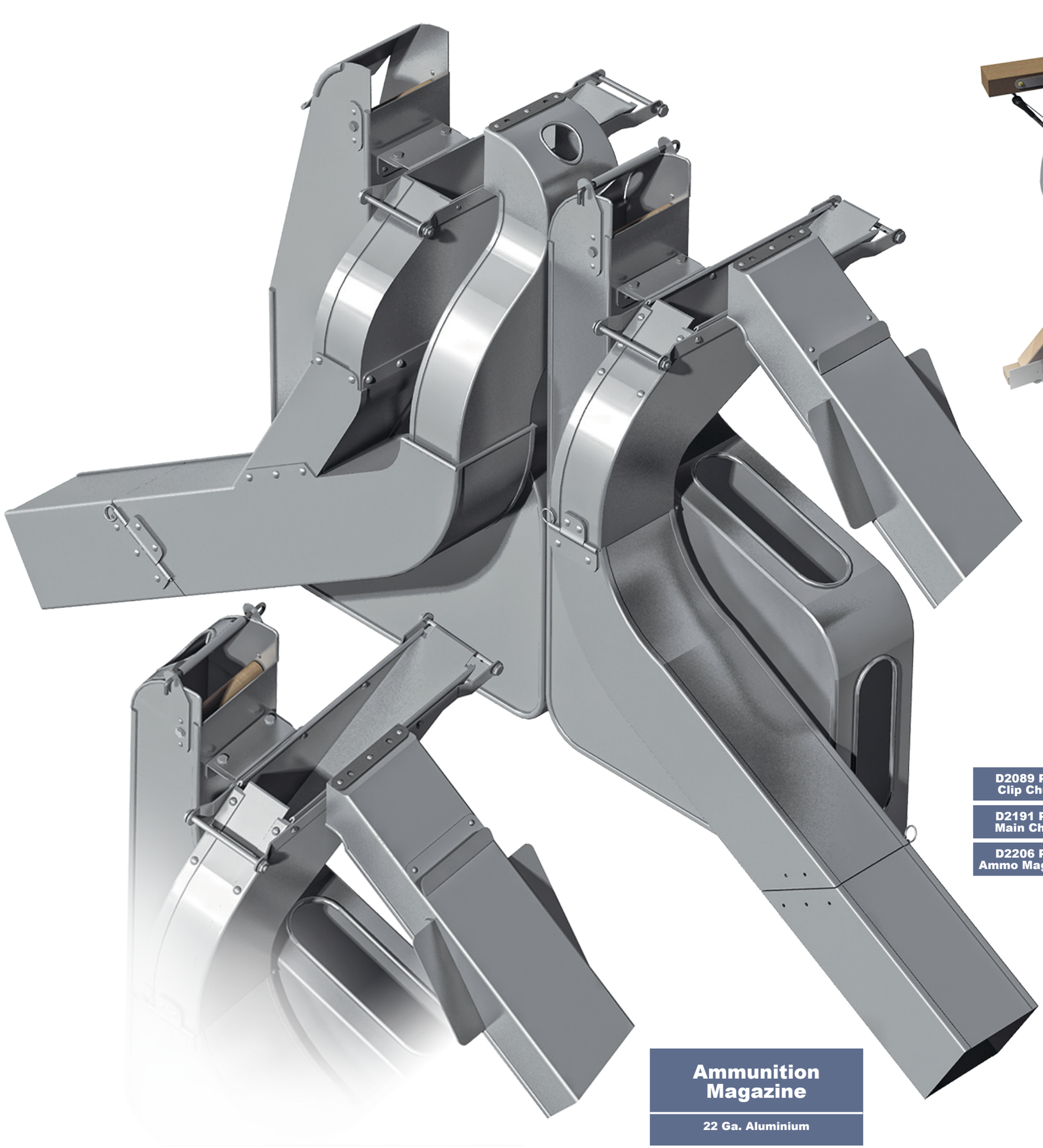
16 Ga. M.S.P.

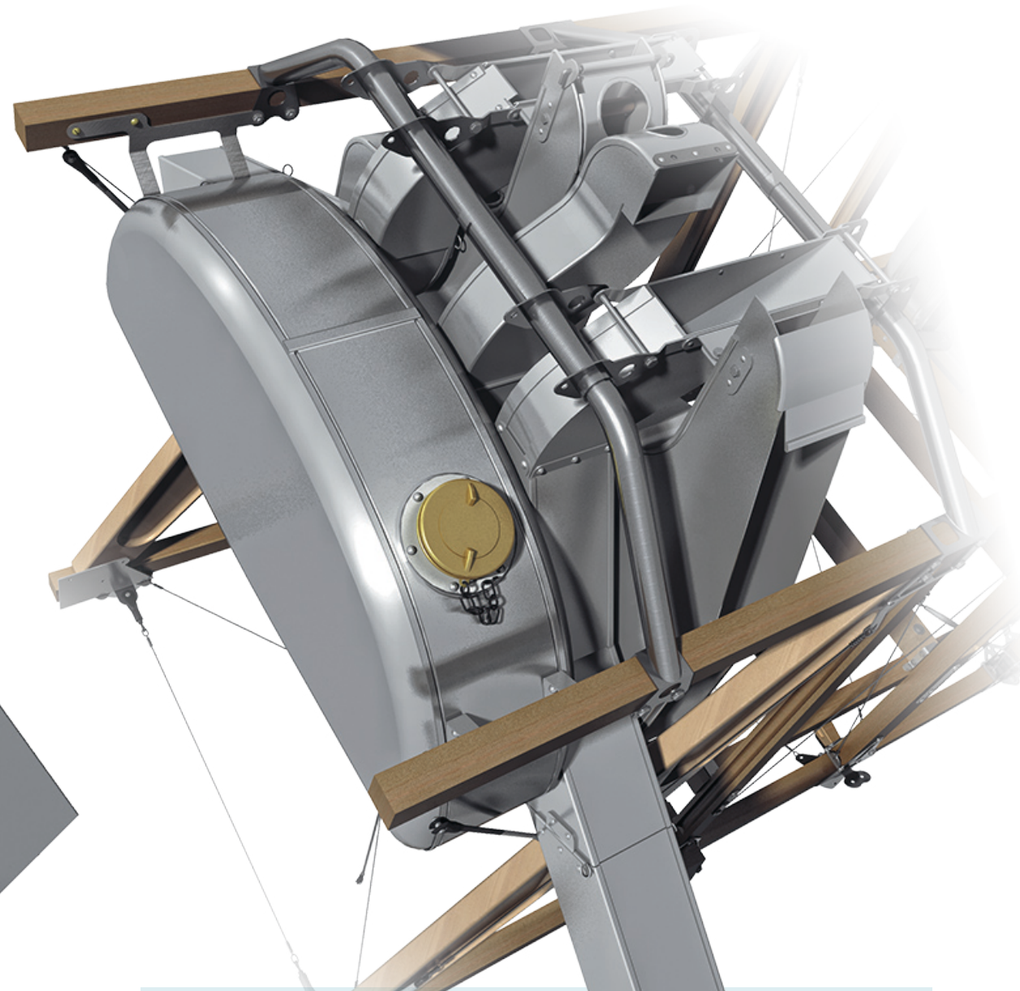
Back to Total | Section

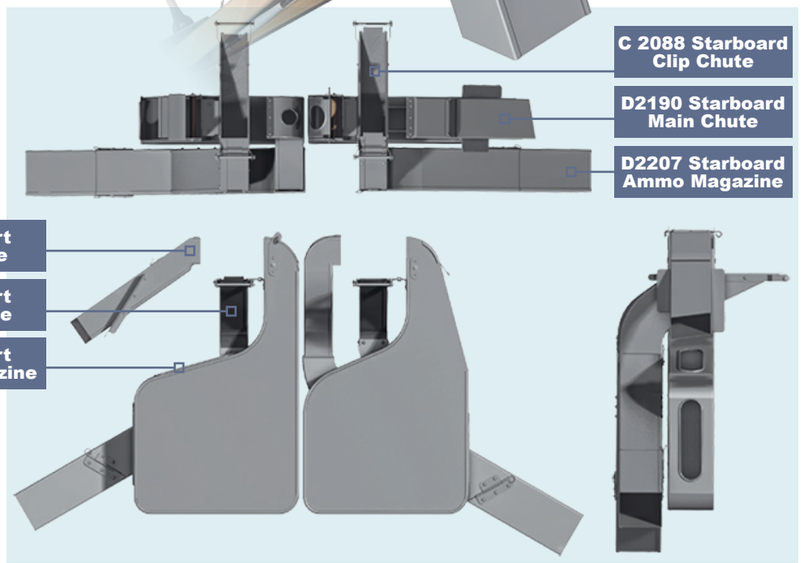
Tanks & Ammunition Magazine



Back to
Total | Section






C 2088 Starboard Clip Chute
D2190 Starboard Main Chute
D2207 Starboard Ammo Magazine
D2089 Port Clip Chute
D2191 Port Main Chute
D2206 Port Ammo Magazine

Ammunition Magazine

22 Ga. Aluminium

Back to
Total | Section

A2114
Oil Tank Clip

16 Ga. Aluminium

D2272
Oil Tank

24 Ga. Tinned Steel

Detail common to Oil & Petrol Tanks

Brass - Steel Chain - Steel rivets

D2270
Main Petrol Tank

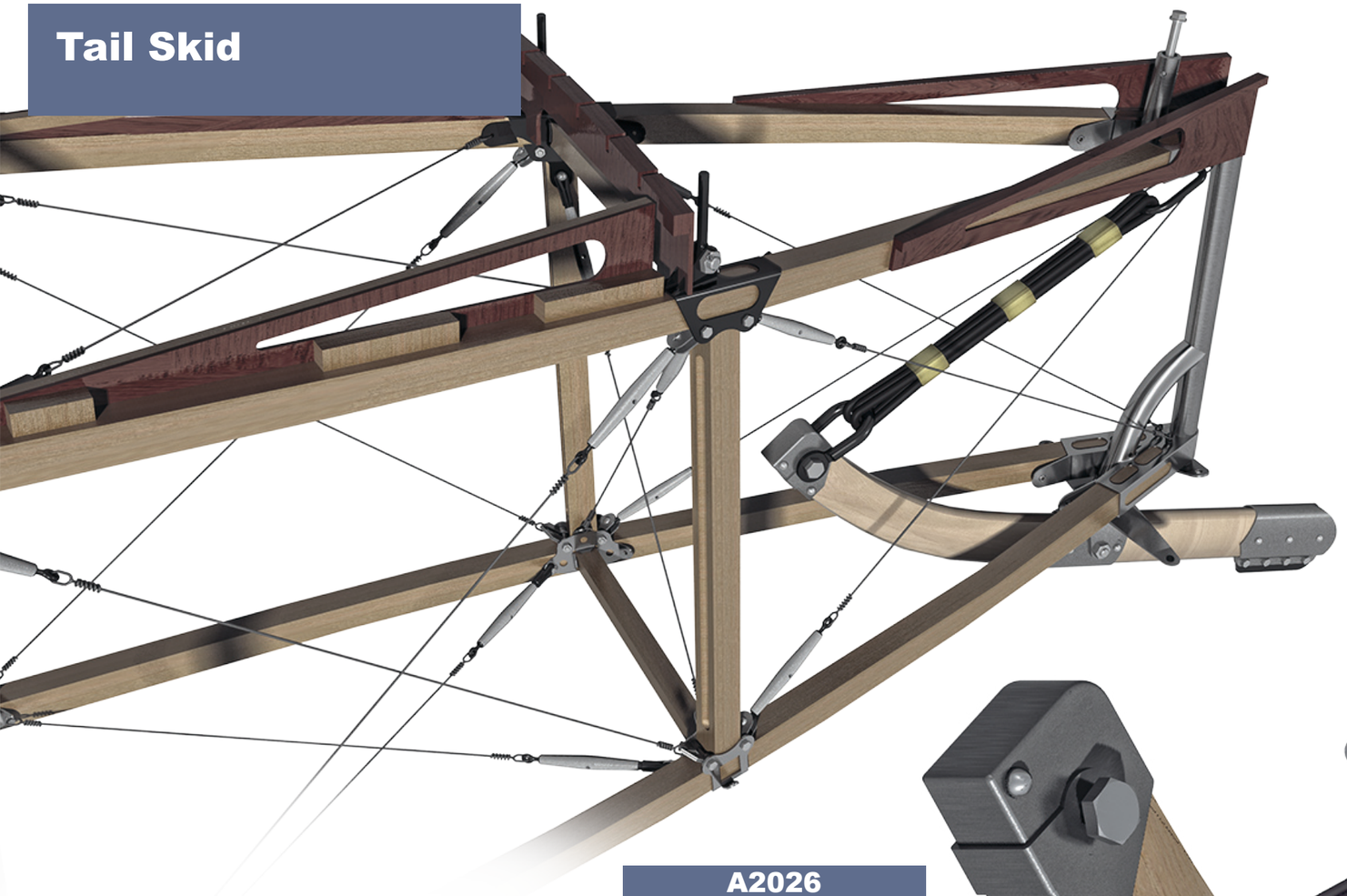
24 Ga. Tinned Steel

D2271
Petrol Gravity Tank

24 Ga. Tinned Steel

Back to
Total | Section

Tail Skid



Rubber Anchor Plate & Loop

A2026 Top Clip

18 Ga. M.S.P.

A2029 Shoe

16 Ga. M.S.P. Hardened Steel Iron

A2026 Top Clip

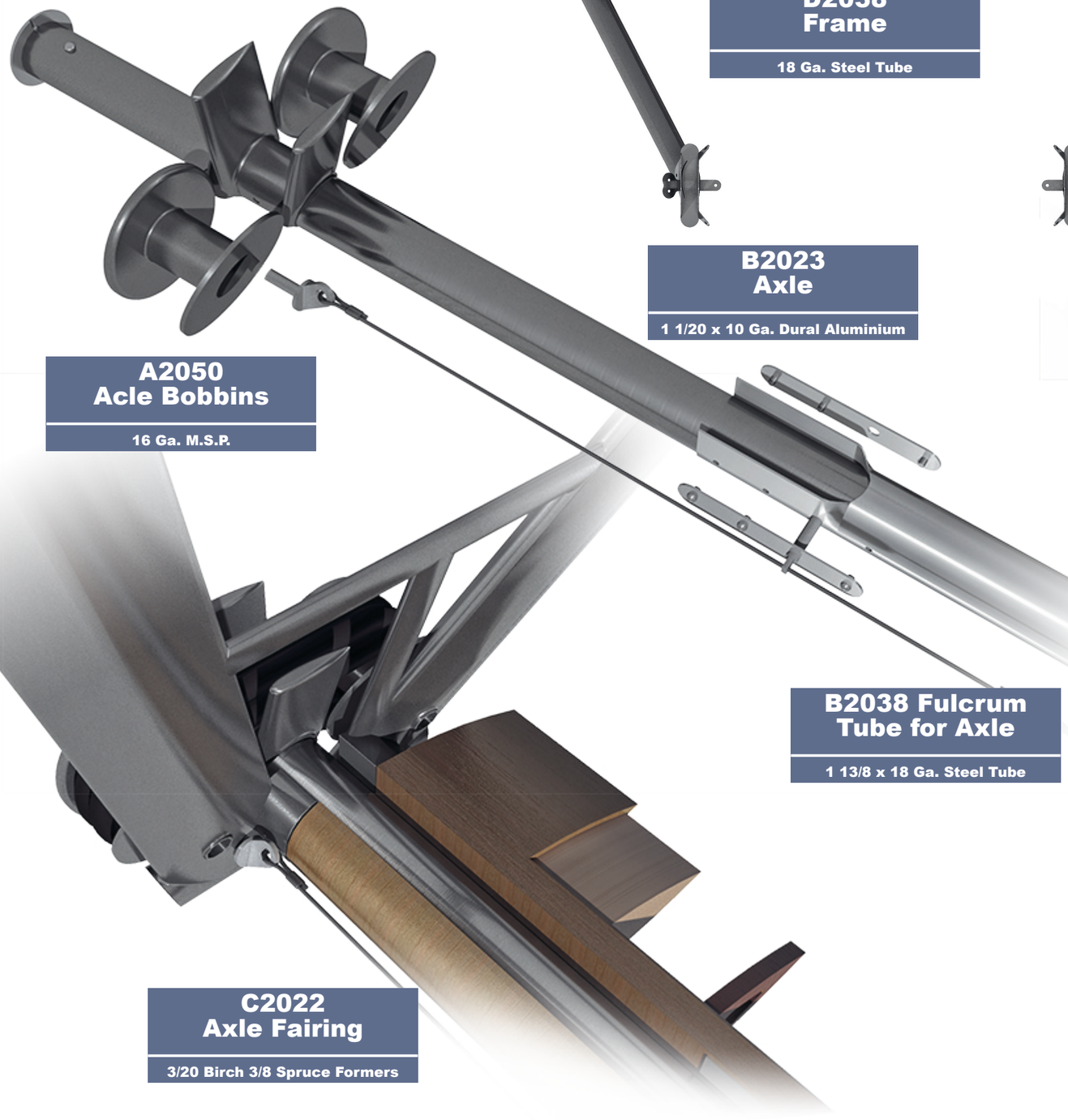
16 Ga. M.S.P.

Back to Total | Section

Undercarriage

A2053
Axle Cap

Aluminium



A2050
Acle Bobbins

16 Ga. M.S.P.

D2038
Frame

18 Ga. Steel Tube

B2023
Axle

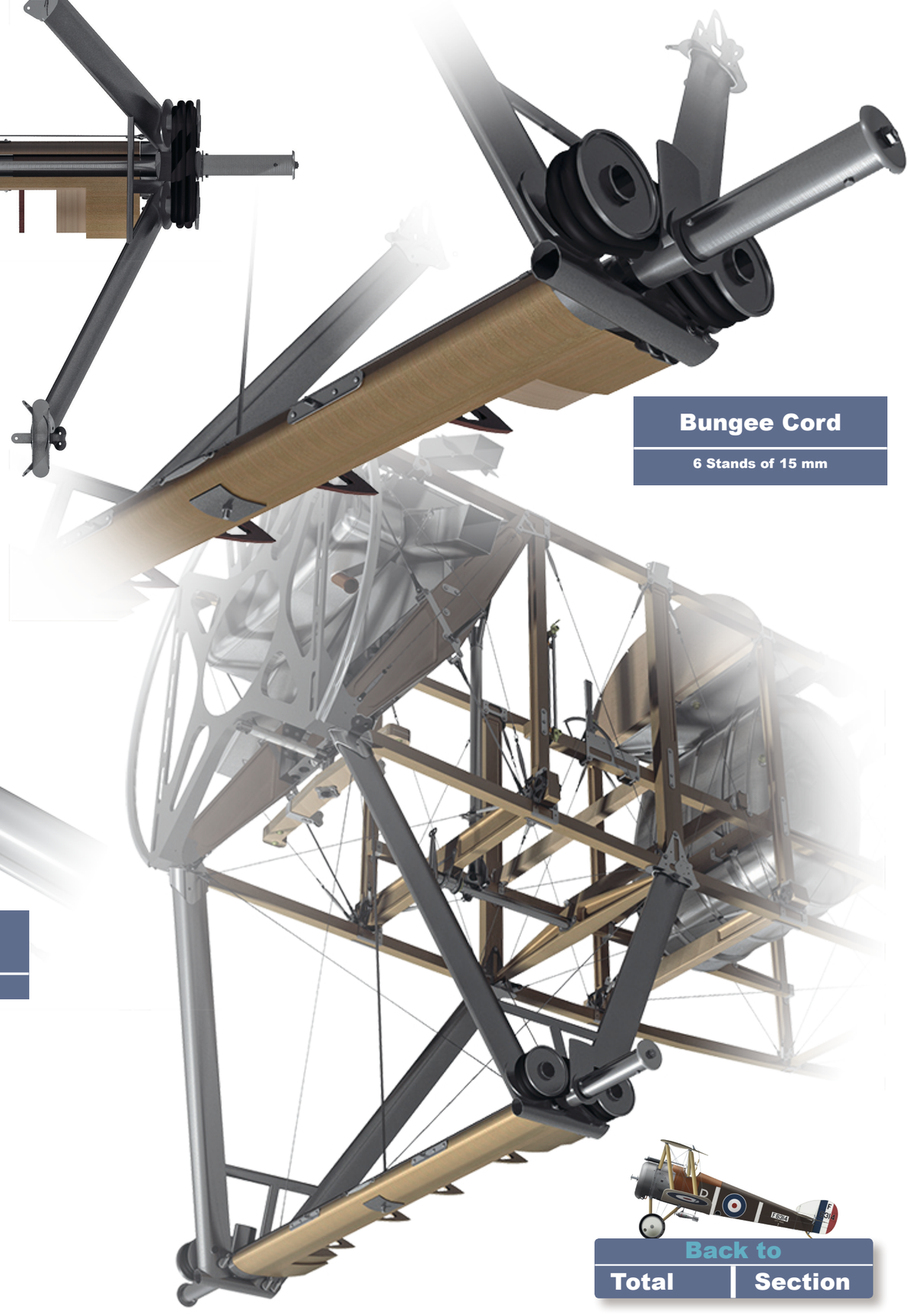
1 1/20 x 10 Ga. Dural Aluminium

B2038 Fulcrum
Tube for Axle

1 13/8 x 18 Ga. Steel Tube

C2022
Axle Fairing

3/20 Birch 3/8 Spruce Formers



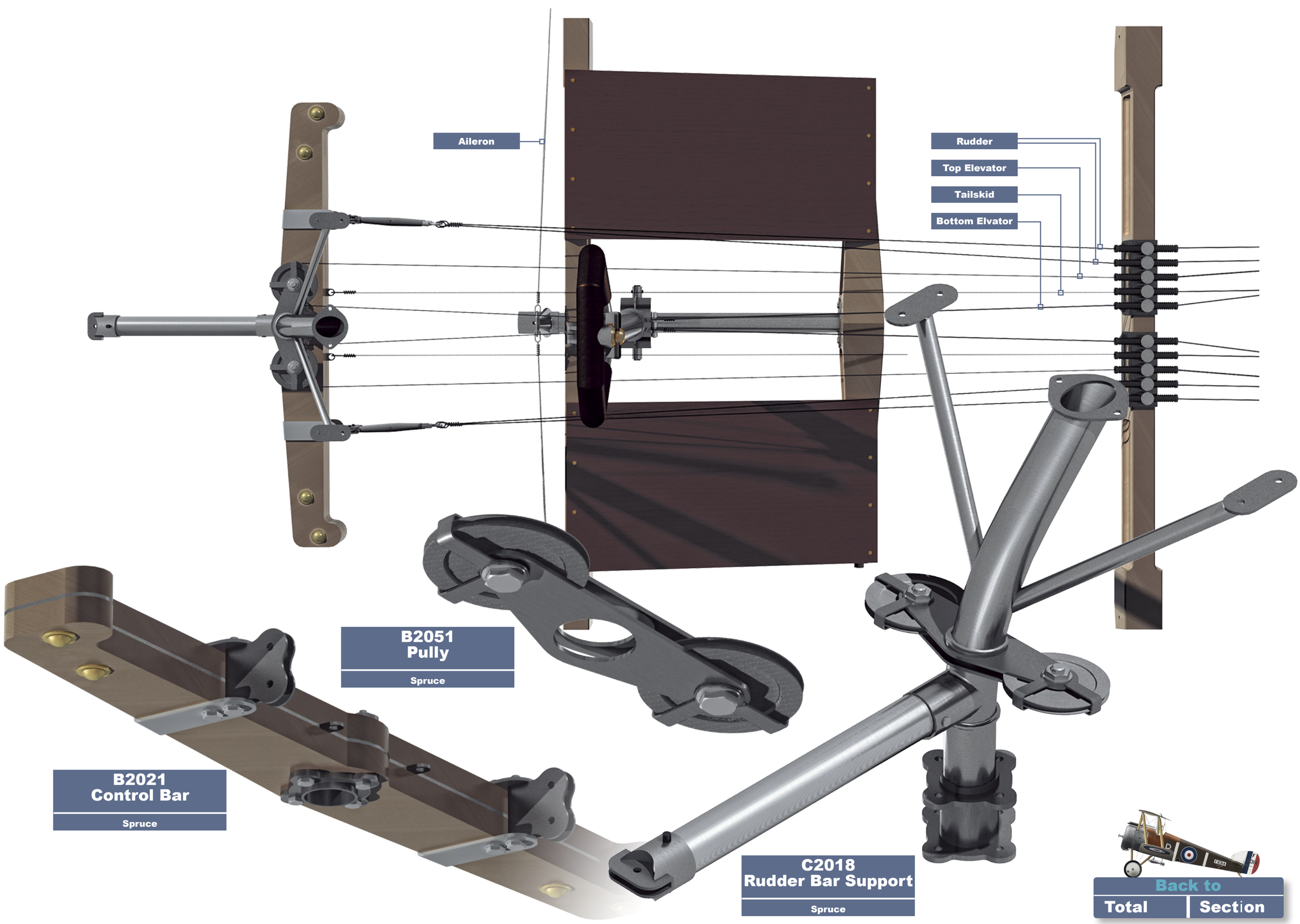
Bungee Cord

6 Stands of 15 mm

Back to
Total | Section

Flying System

Back to
Total | Section



Back to
Total | Section

B2021 Control Column Fork

1 1/4x 17 Ga. M.S.T Tube

C2042 AileronControlHorn on Rocker Shaft

1” x 16 Ga. M.S.T.

SL 167 Closh Handle

Dural Aluminium

A2055 Control Cable Fiarlead

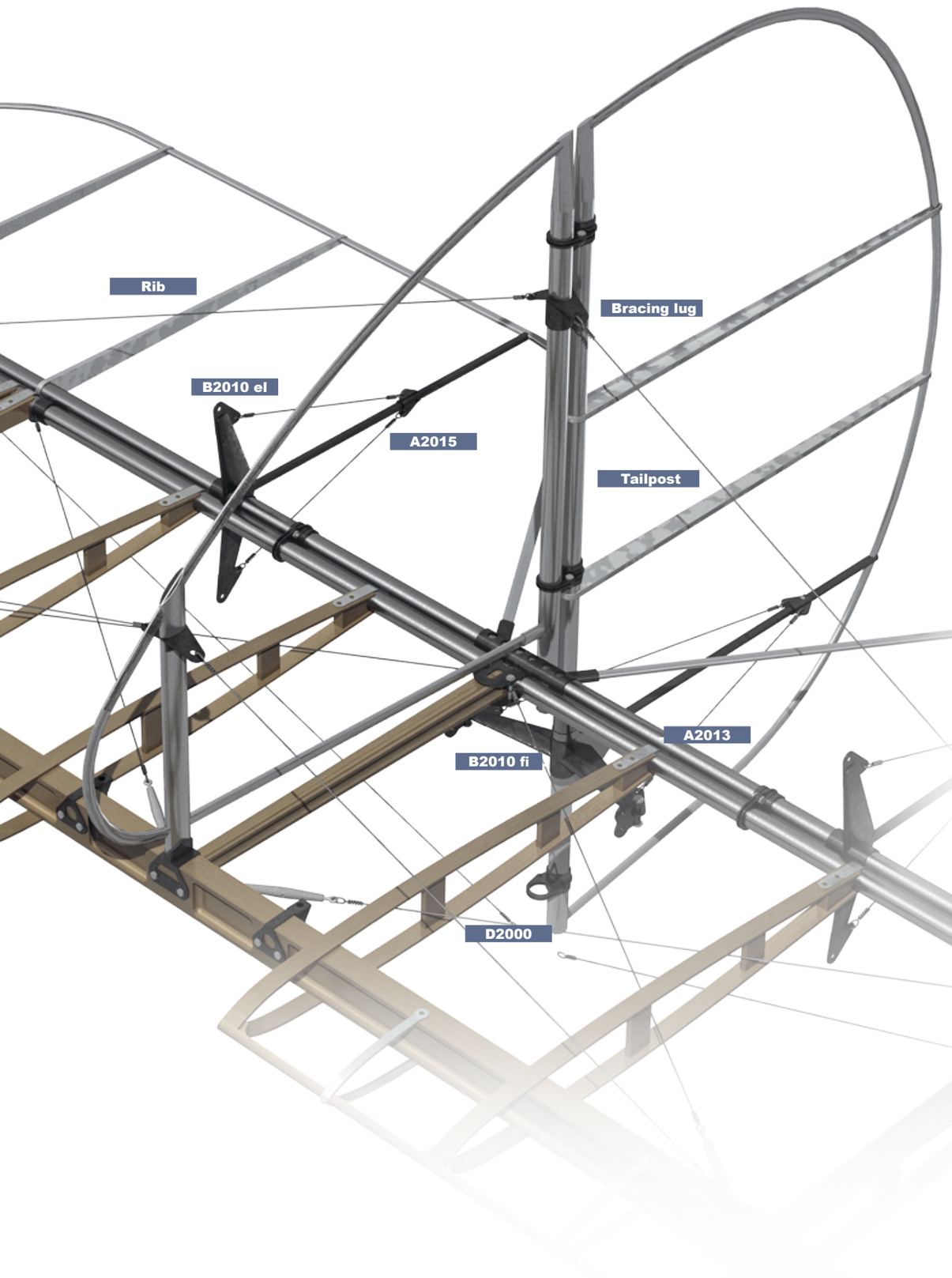
16 Ga. M.S.T. Frame

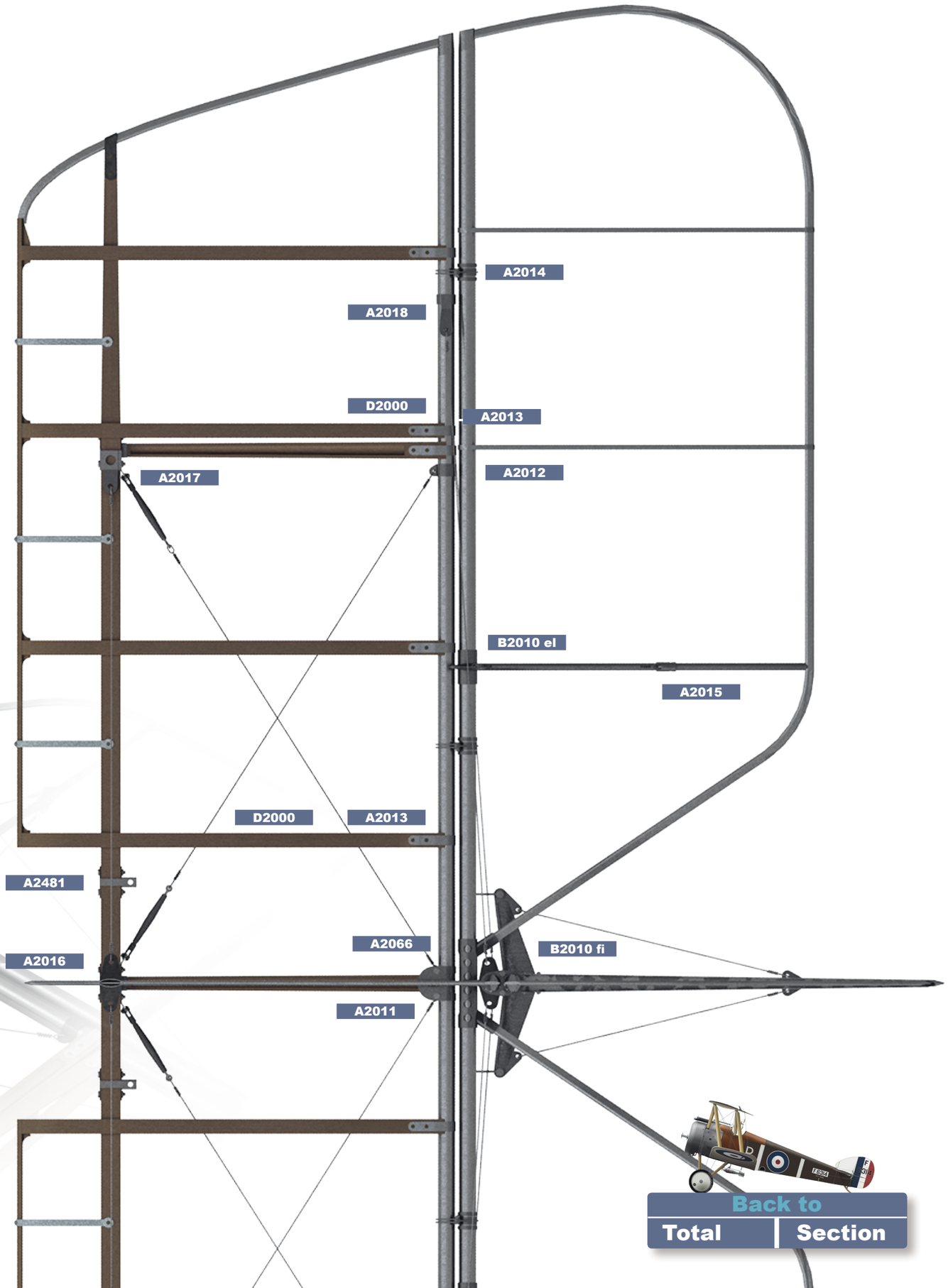
B2022 Control Column Cable Lug

Dural Aluminium

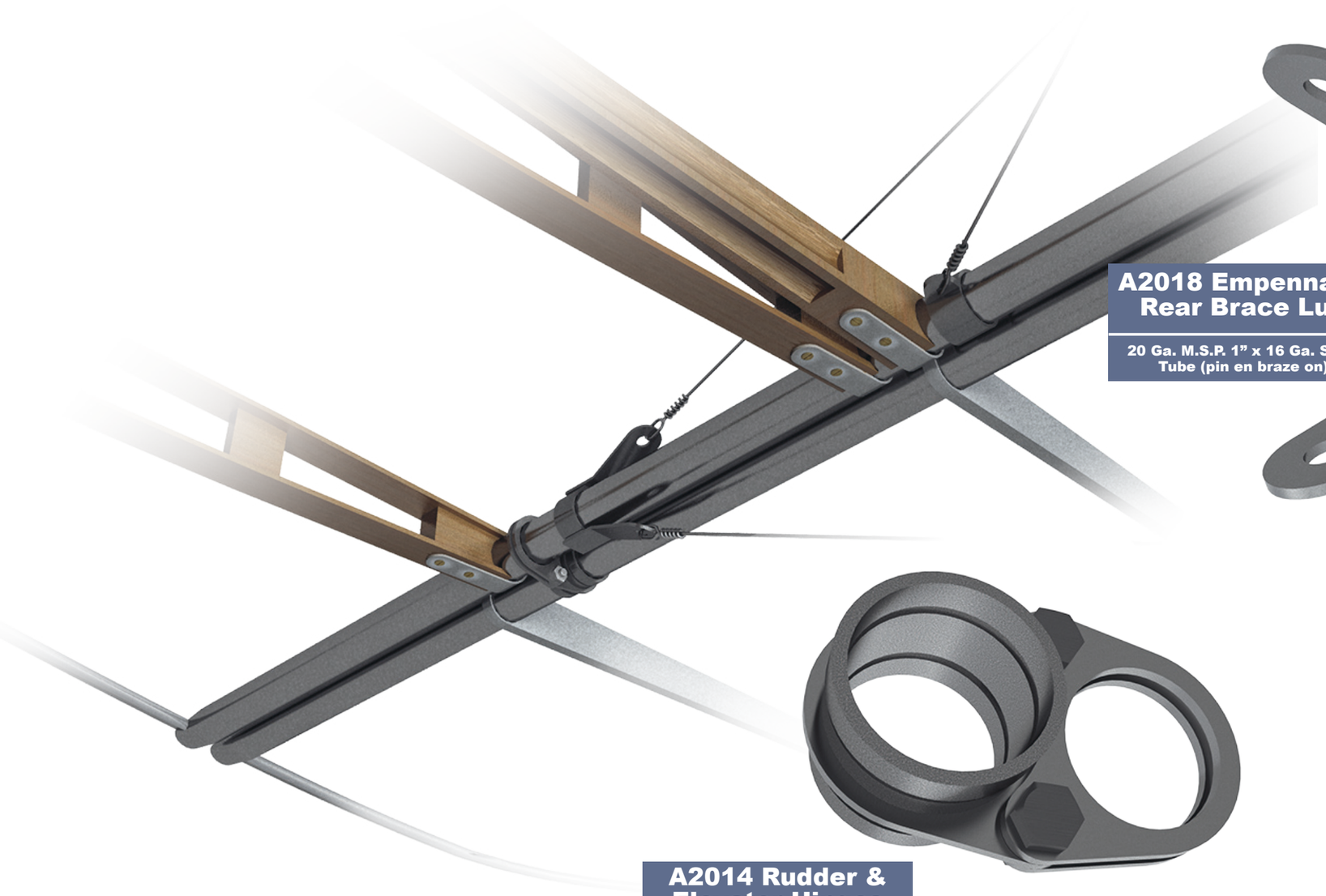
Back to
Total | Section

Fin, Rudder and Stabiliser



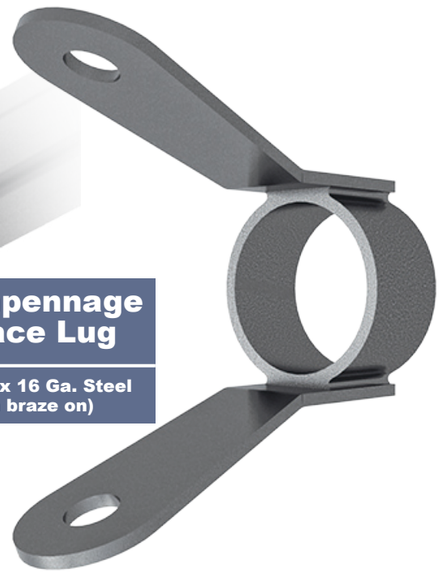


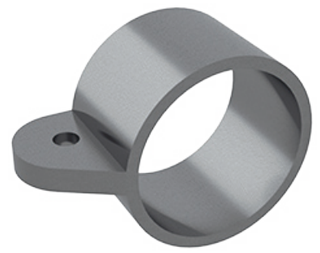
Back to
Total | Section



A2018 Empennage Rear Brace Lug

20 Ga. M.S.P. 1” x 16 Ga. Steel Tube (pin en braze on)





A2012 Empennage Rib Strut Clip

20 Ga. M.S.P. (braze on)

A2014 Rudder & Elevator Hinges

D14 Ga. M.S.P. Tube 7/8 x 20 Ga.

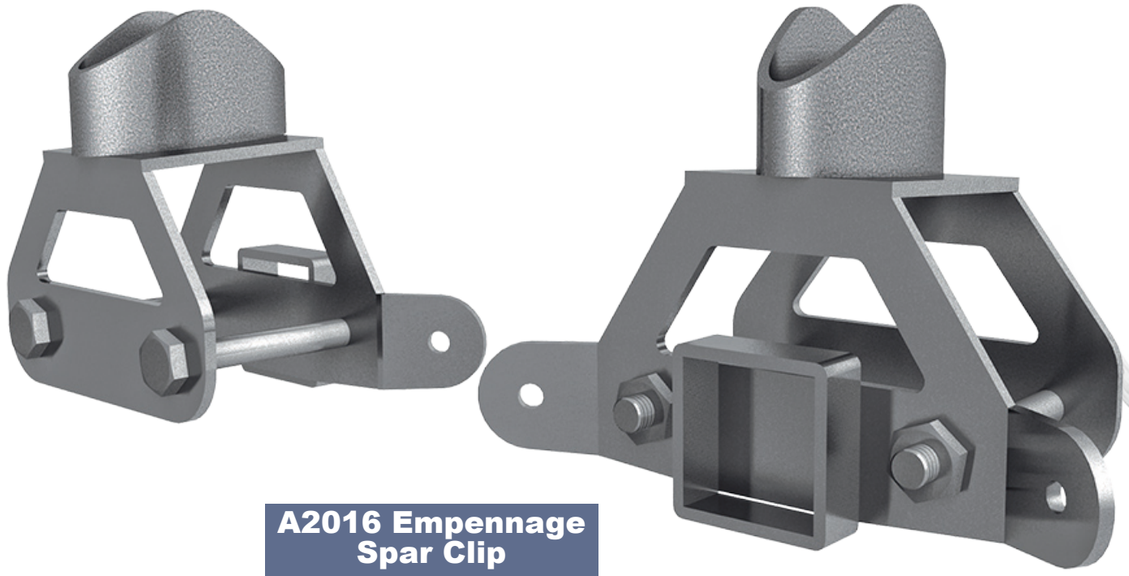
D2000 Empennage Rib

Spruce

A2013 Empennage Rib Strut Clip

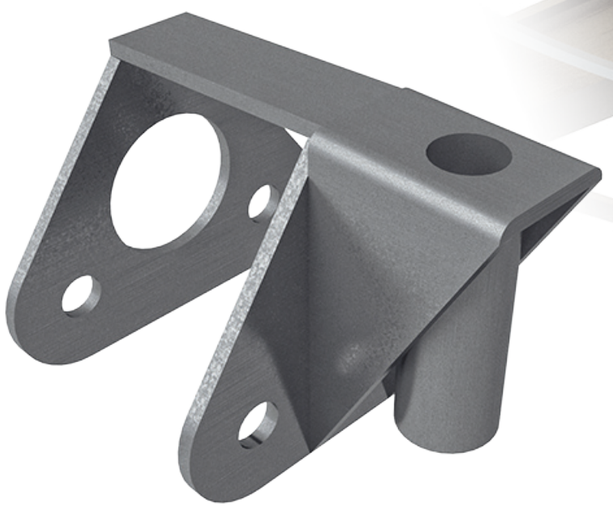
Aluninium

Back to
Total | Section



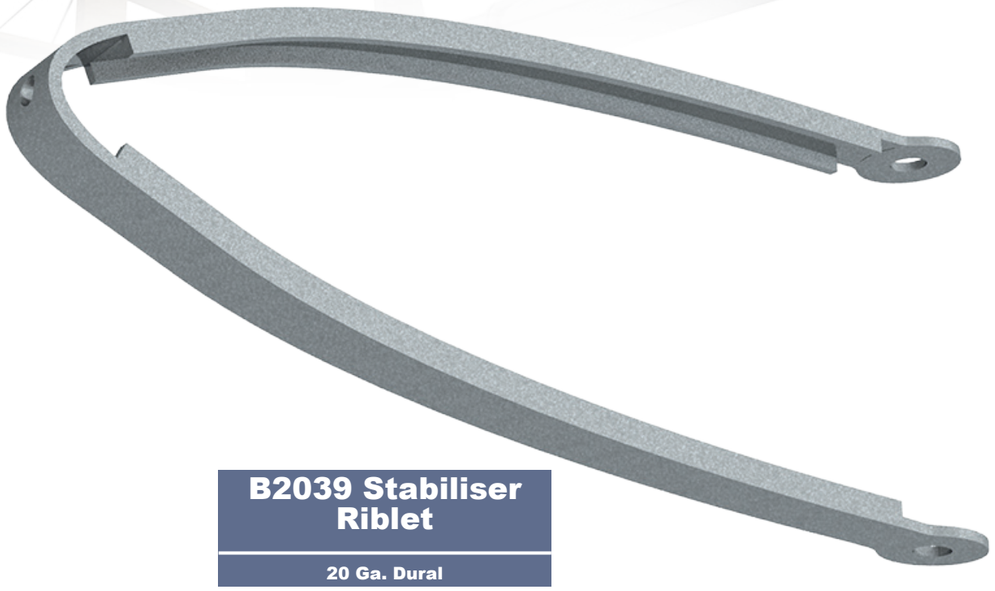
A2016 Empennage Spar Clip

16 Ga. M.S.P. Tube 18 Ga. M.S.P.



A2481 Tailplane Attachment Fitting

16 Ga. M.S.P. Tube 3/8 x 17 Ga.



B2039 Stabiliser Riblet

20 Ga. Dural

Back to
Total | Section

Tailpost

Total

Back to
Total | Section

B2010 Elevator Control Arm

16 Ga. M.S.P.
Tube 1” x 17 Ga. M.S.P.

A2015 Bracing Lug

16 Ga. M.S.P.

A2017 Empennage Spar Clip

16 Ga. M.S.P.

Elevator Rib Sectiong

22 Ga.

Back to
Total | Section

A2290 Double Rudder Cable Lug

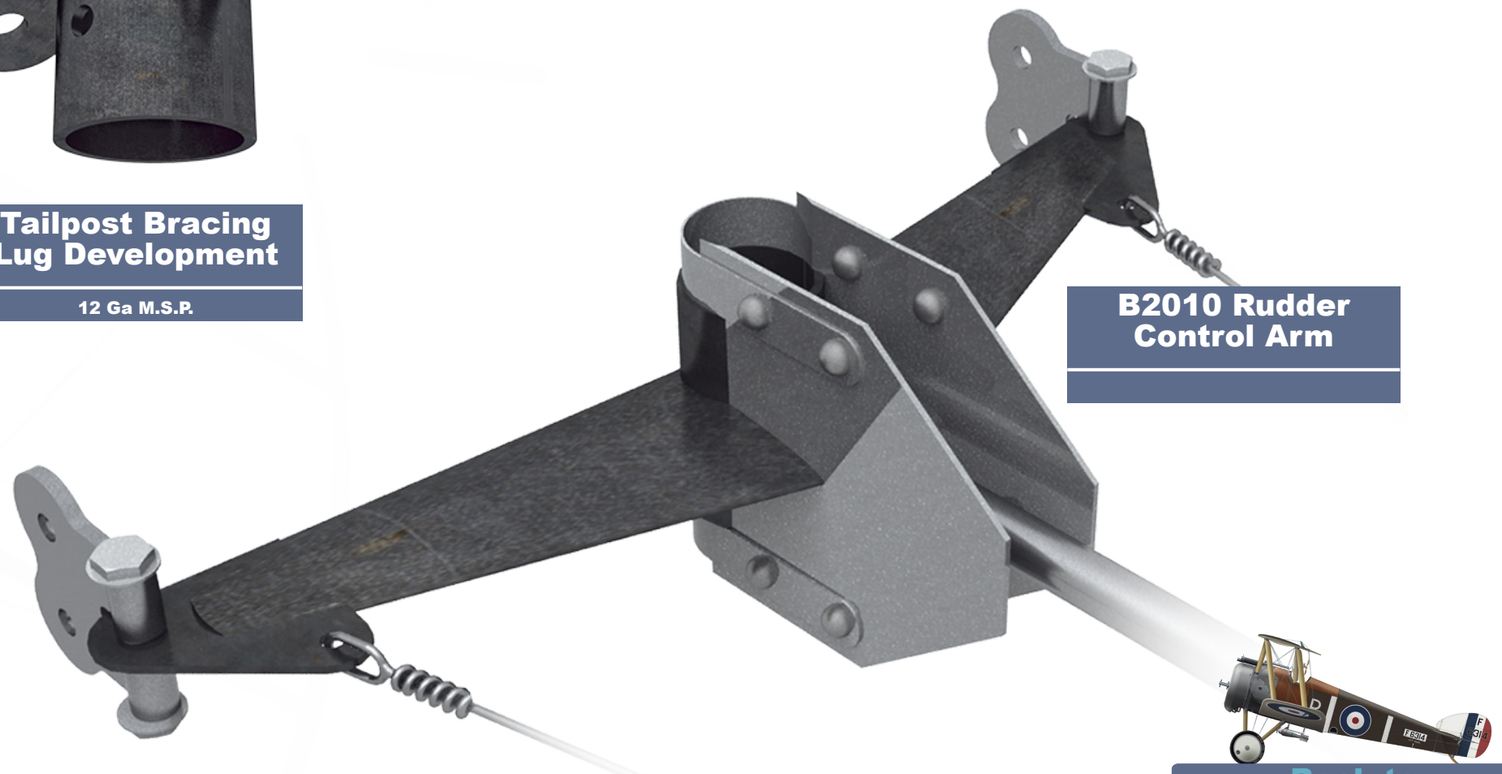
18 Ga. M.S.P.

Tailpost Bracing Lug Development

12 Ga M.S.P.

A2066 Elevator Sleeve

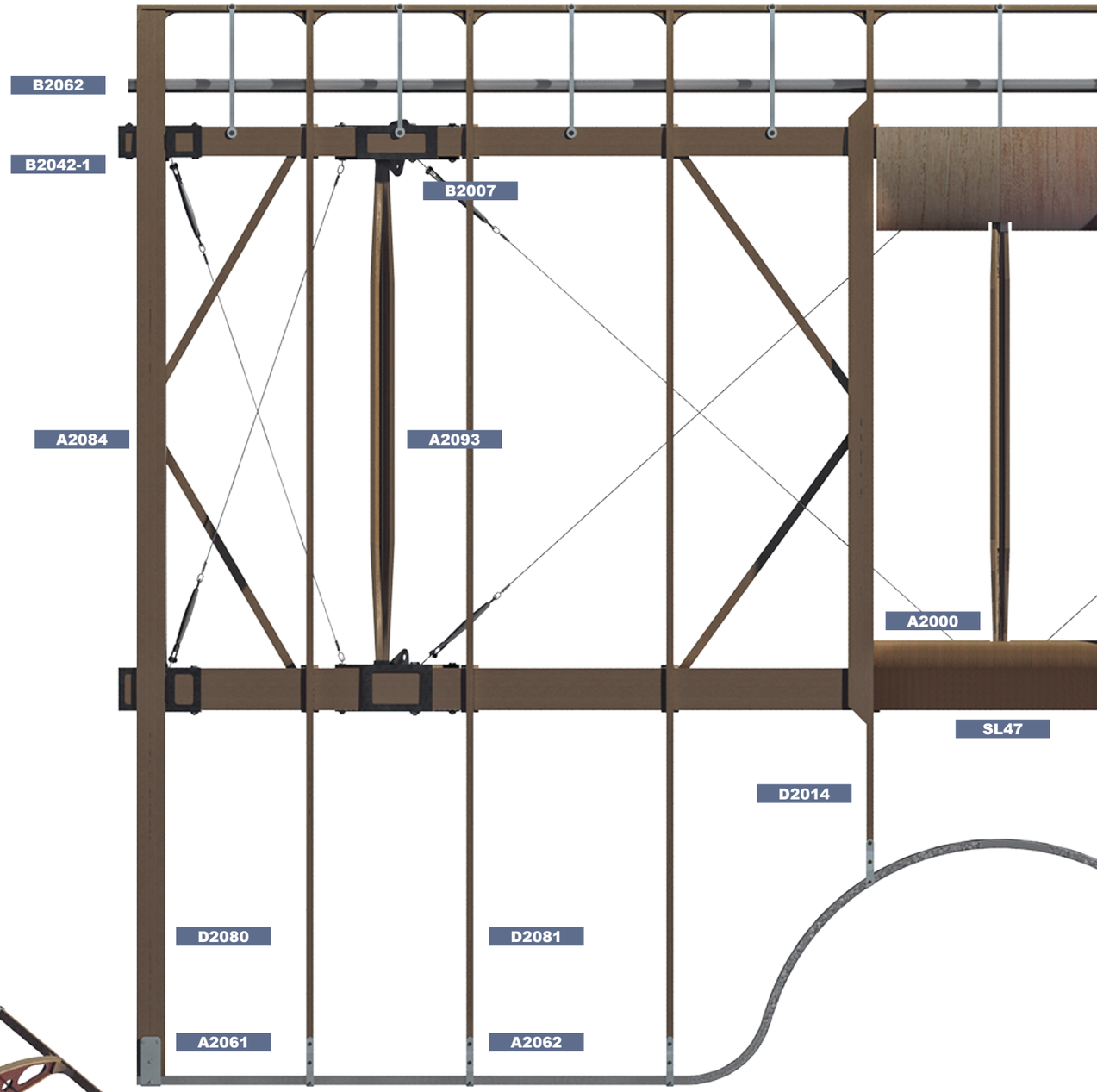
17 Ga. M.S.P. Tube 1” x 17 Ga.



B2010 Rudder Control Arm

Back to Total | Section

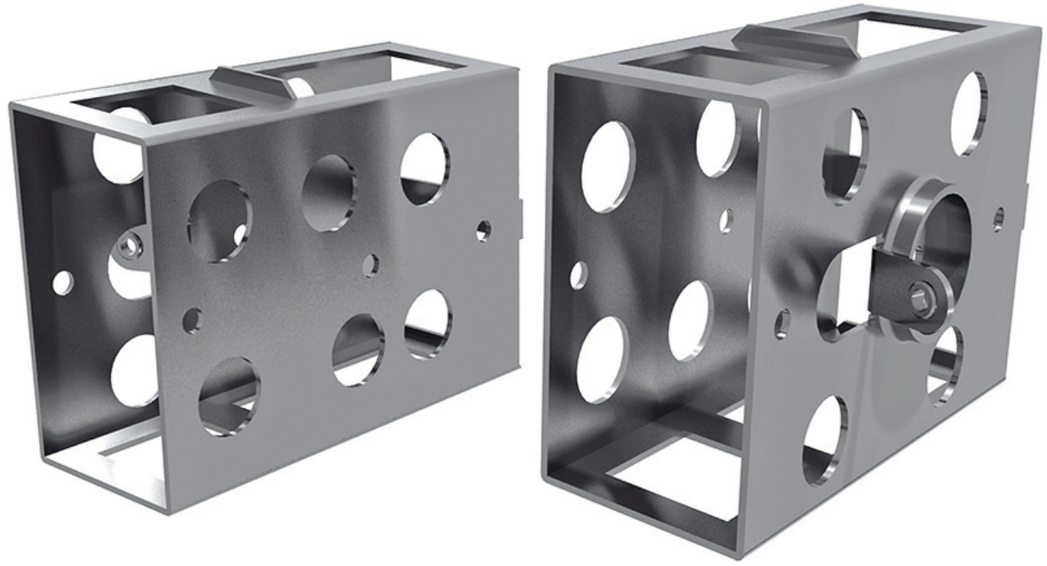
Centre Section



Back to
Total | Section

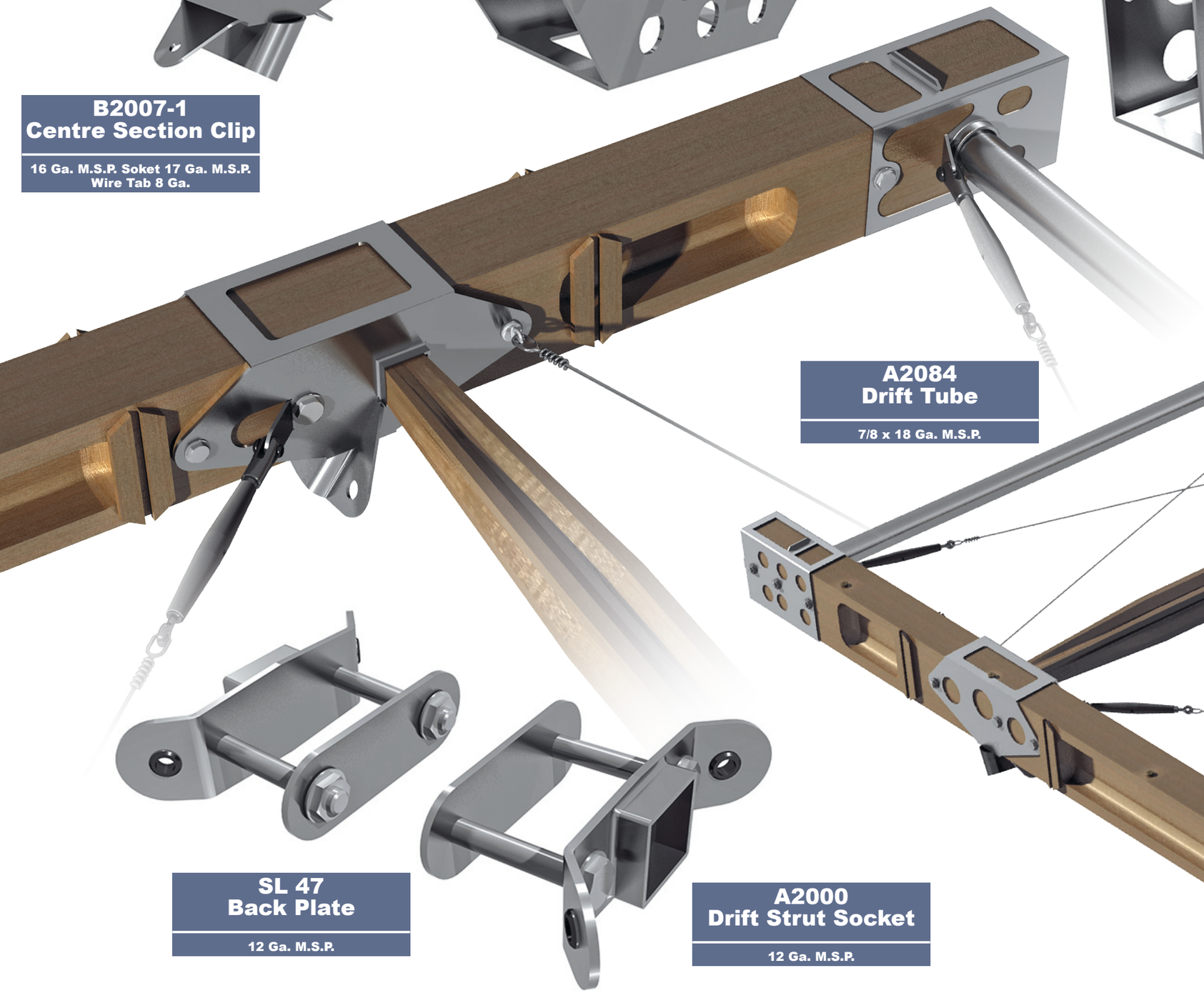
B2007-1
Centre Section Clip

16 Ga. M.S.P. Soket 17 Ga. M.S.P.
Wire Tab 8 Ga.



B2042-1 Centre Section Spar Box

18 Ga. M.S.P.



A2084
Drift Tube

7/8 x 18 Ga. M.S.P.

A2093
Drift Strut

Spruce

SL 47
Back Plate

12 Ga. M.S.P.

A2000
Drift Strut Socket

12 Ga. M.S.P.

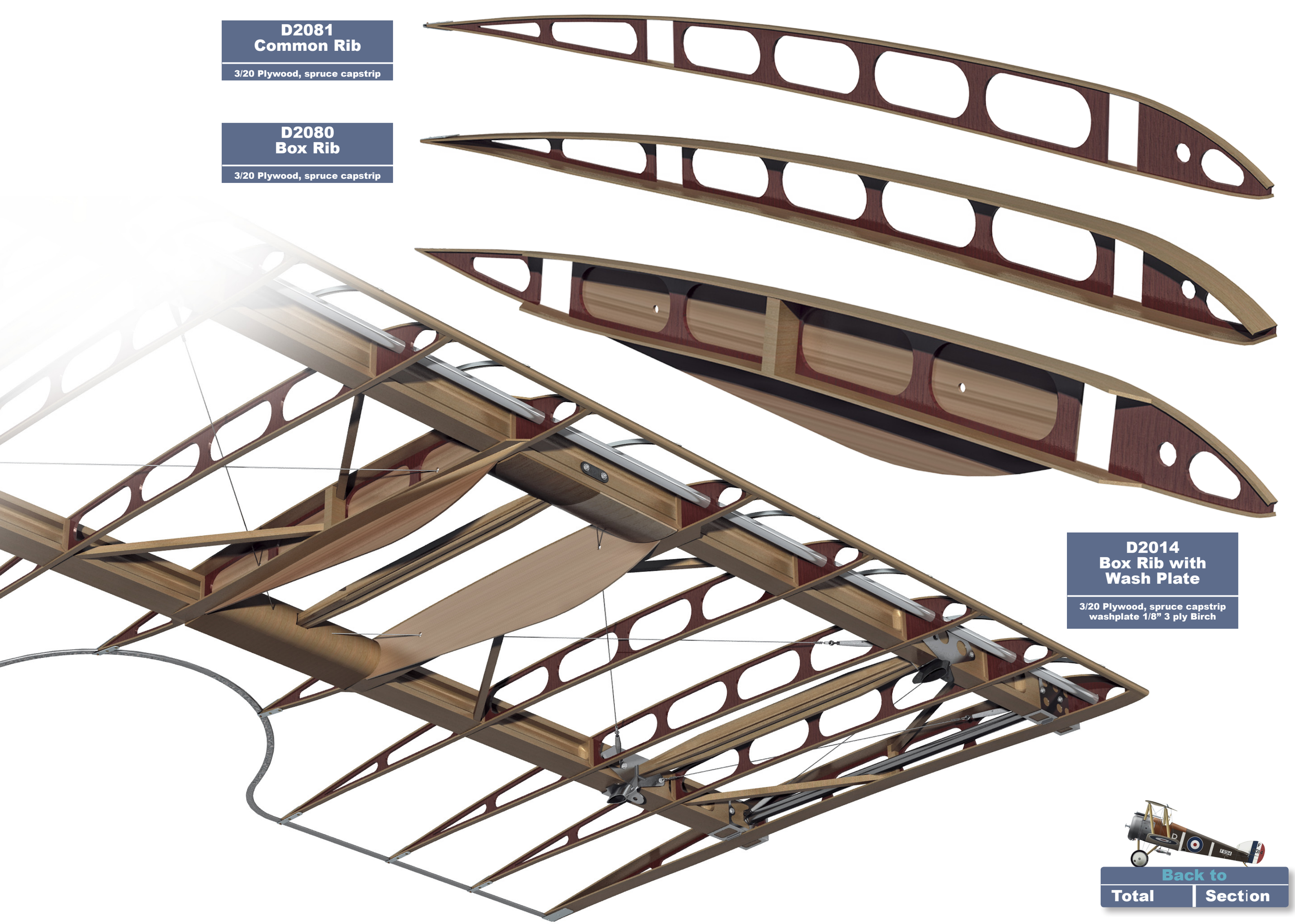
Back to
Total | **Section**

D2081
Common Rib

3/20 Plywood, spruce capstrip

D2080
Box Rib

3/20 Plywood, spruce capstrip



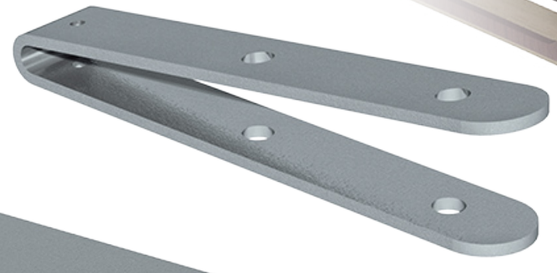
D2014
Box Rib with Wash Plate

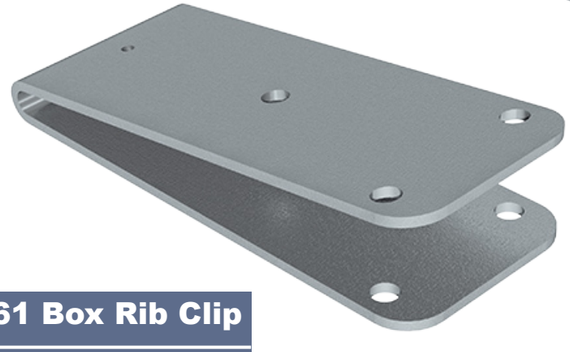
3/20 Plywood, spruce capstrip
washplate 1/8” 3 ply Birch

Back to
Total | Section

A2062
Common Rib Clip

22 Ga. Aluminium



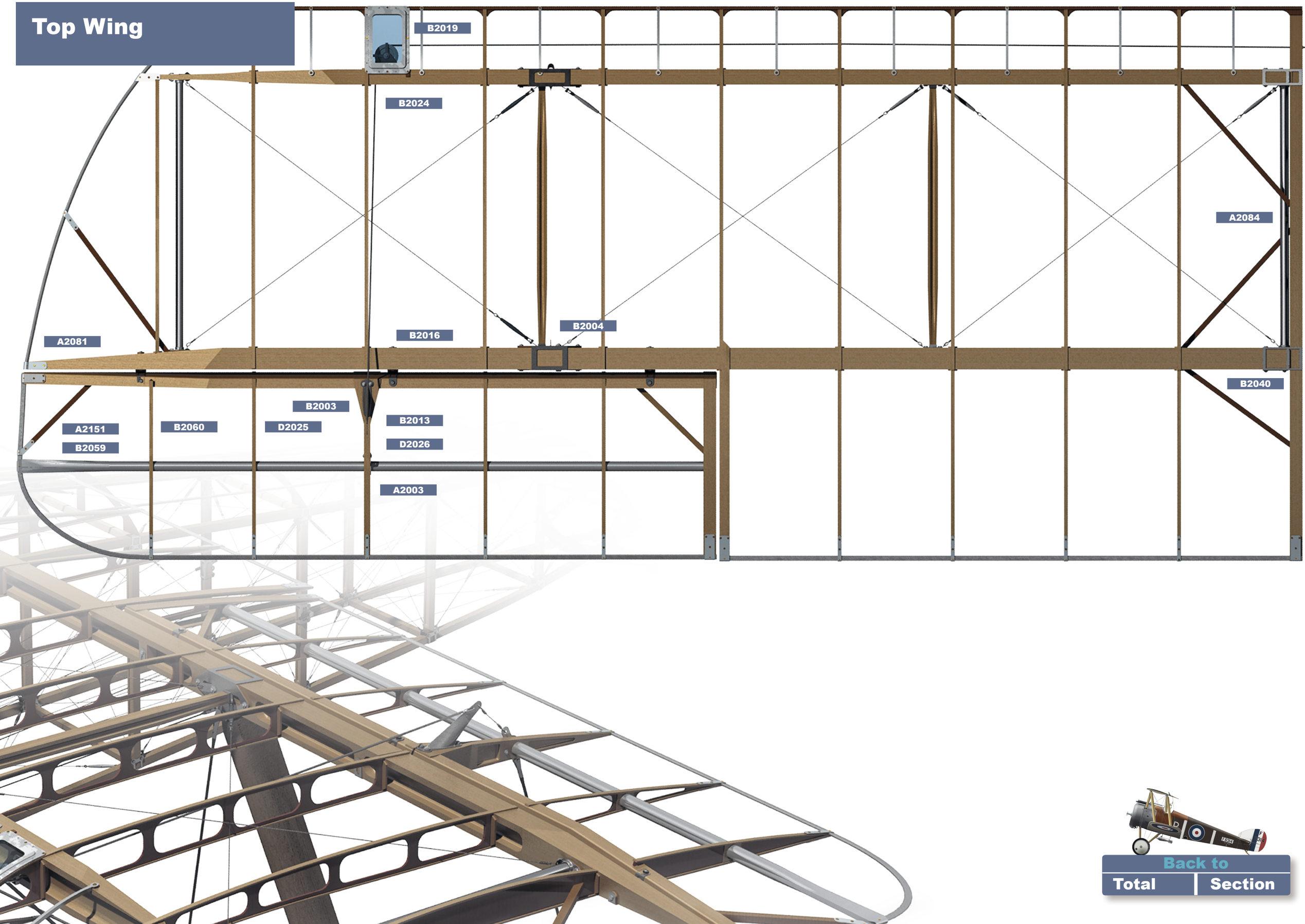


A2061 Box Rib Clip

22 Ga. Aluminium

Back to
Total | Section

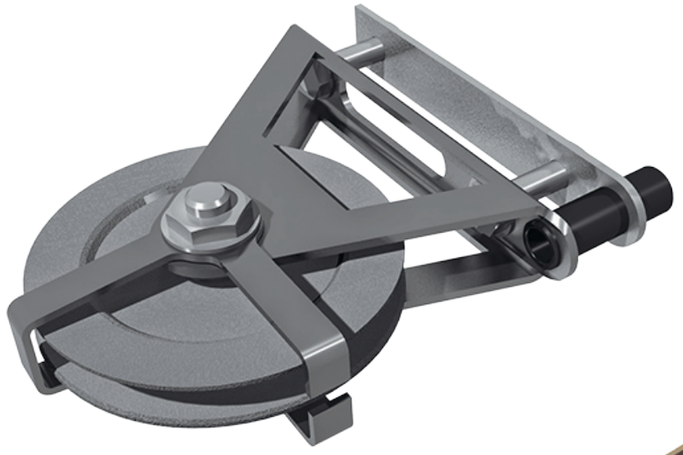
Top Wing

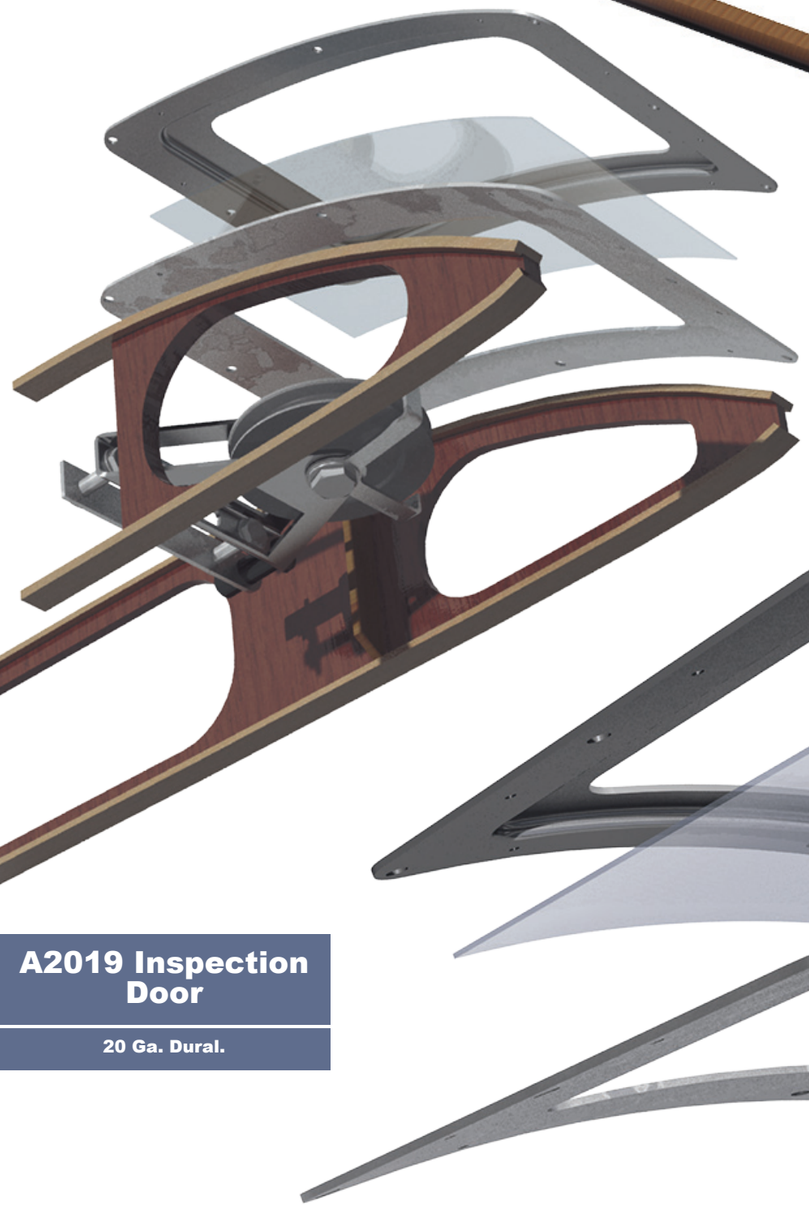


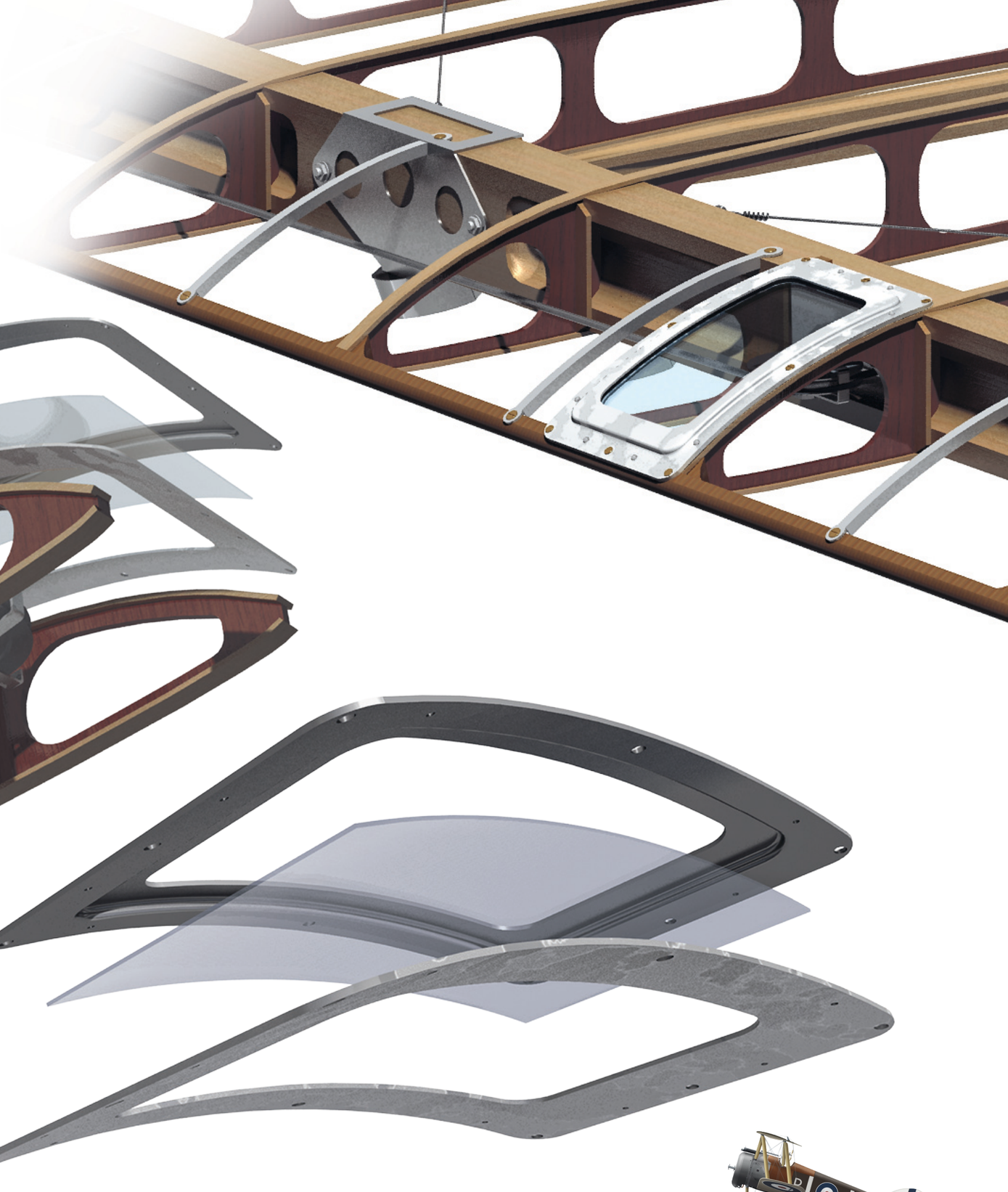
Back to
Total | Section

B2024 Top Aileron Pulley Assembly

16 Ga. M.S.P. Pulley Dural.



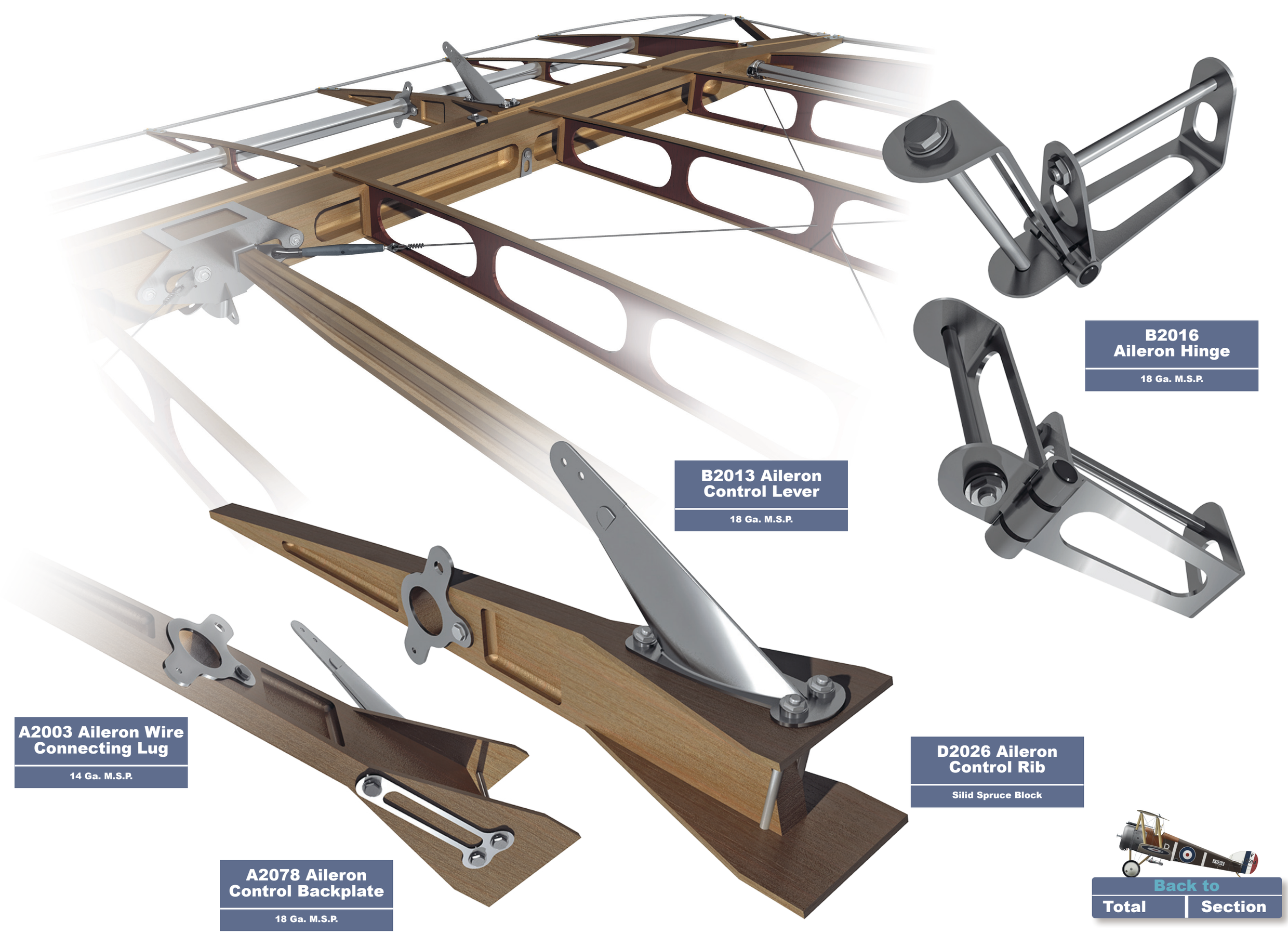




A2019 Inspection Door

20 Ga. Dural.

Back to
Total | Section



B2016
Aileron Hinge

18 Ga. M.S.P.

B2013 Aileron
Control Lever

18 Ga. M.S.P.

A2003 Aileron Wire
Connecting Lug

14 Ga. M.S.P.

A2078 Aileron
Control Backplate

18 Ga. M.S.P.

D2026 Aileron
Control Rib

Silid Spruce Block

Back to
Total | Section

B2060 Special End Aileron Rib

3/20 Plywood, spruce capstrip

D2025 Common Aileron Rib

3/20 Plywood, spruce capstrip

A2151 Aileron Strut Clip

22 Ga. Dural.

A2081 Strut clips

22 Ga. Dural.

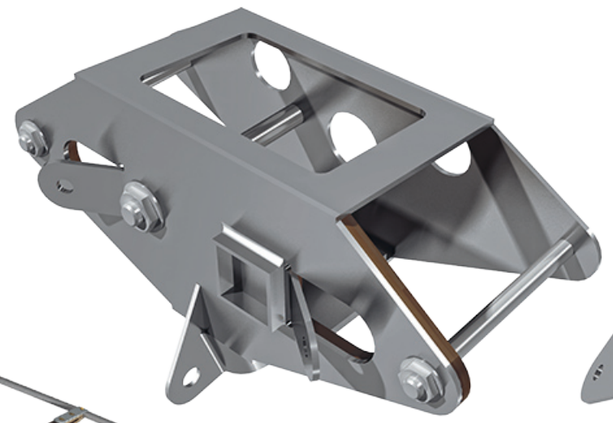
B2059 Aileron Strengthening Tube

20 Ga. Dural.

Back to Total | Section

B2004 Front Spar Clip Outer

16 Ga. M.S.P. Soket 17 Ga. M.S.P.
Wire Tab 8 Ga.



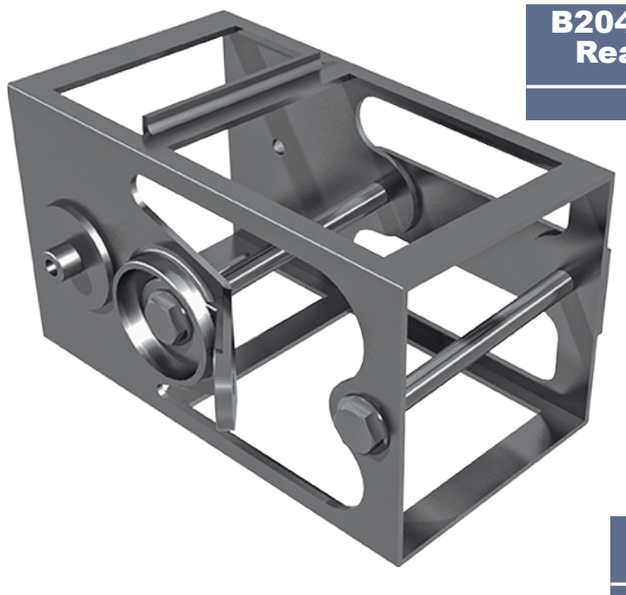
!/8 Spruce Packing

Wire tab 18 Ga. M.S.P.

Socket & Clip

B2040 Mainplane Rear Spar Box

16 Ga. M.S.P.



A2084 Drift tube

7/8 x 16 Ga. M.S.P.

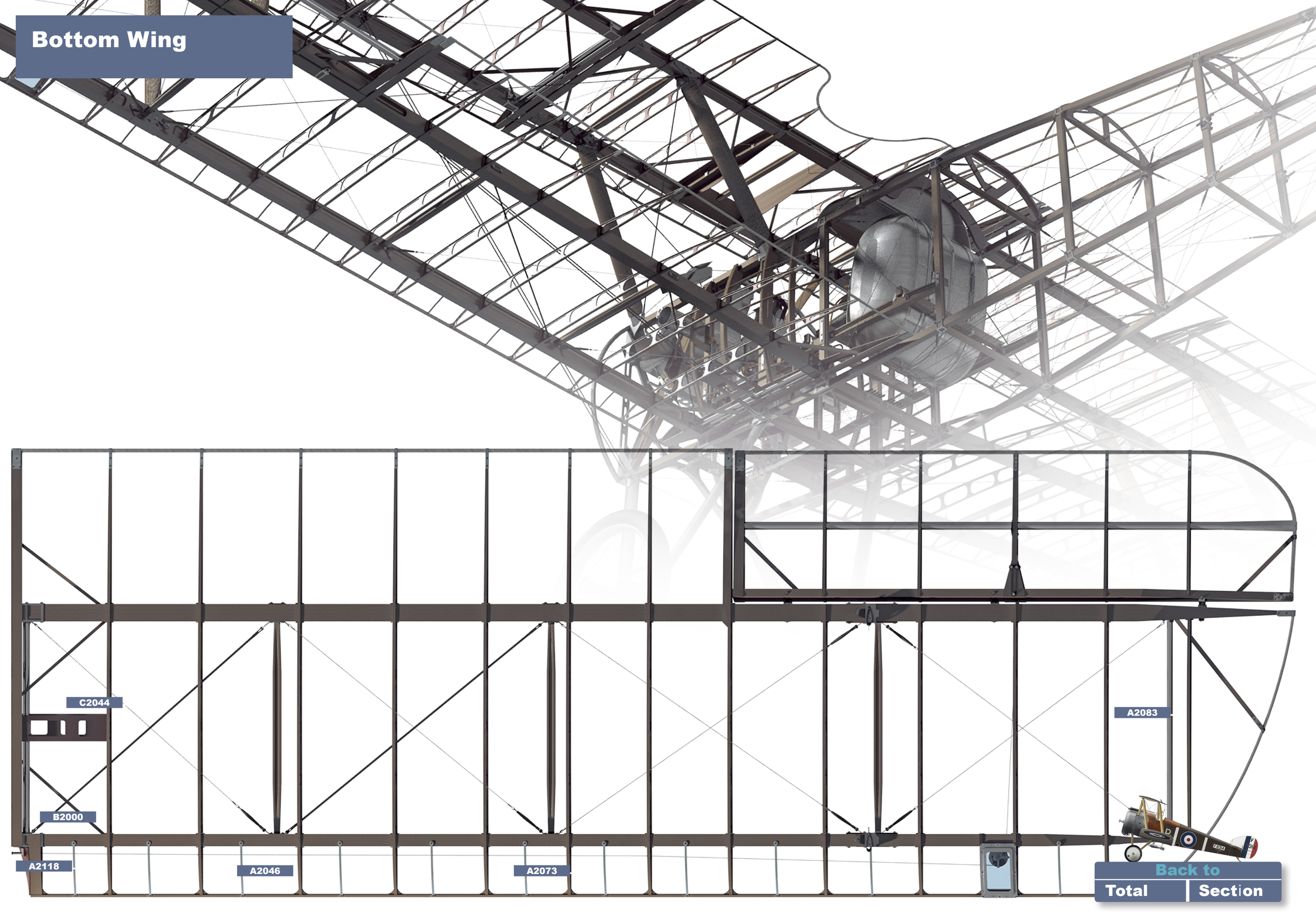
B2041 Top Wing Connection to Centre Section

Joint Rod Tube

3/8 x 16 Ga. Dural

Back to
Total | Section

Bottom Wing



Back to Total Section

C2044
Wing Reinforcing

!/8” 3ply Birch, BassWood Block

A2046
Mainplane Riblets

20 Ga. Dural

A2118 Fairlead
Housing Post

Steel

Back to
Total | Section

A2092
Drift Strut Socket

18 Ga. M.S.P.

A2083
Drift Tube

7/8 x 18 Ga. M.S.P.

A2073
Plane Fairlead

16 Ga. Dural

Back to
Total | Section

Bottom Wing Connection to Fuselage

B2002
Bottom Plate Front Spar Housing

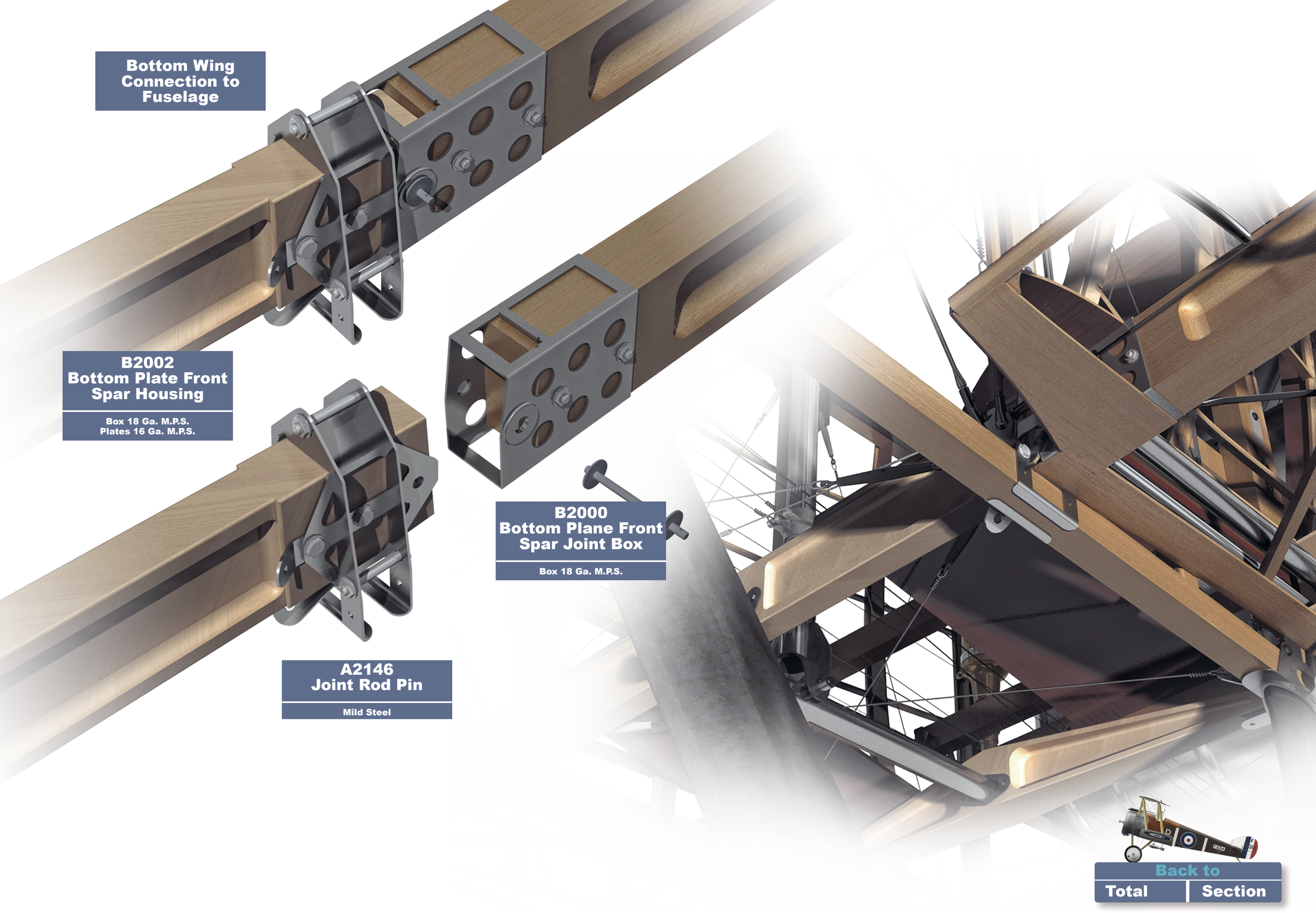
Box 18 Ga. M.P.S.
Plates 16 Ga. M.P.S.

B2000
Bottom Plane Front Spar Joint Box

Box 18 Ga. M.P.S.

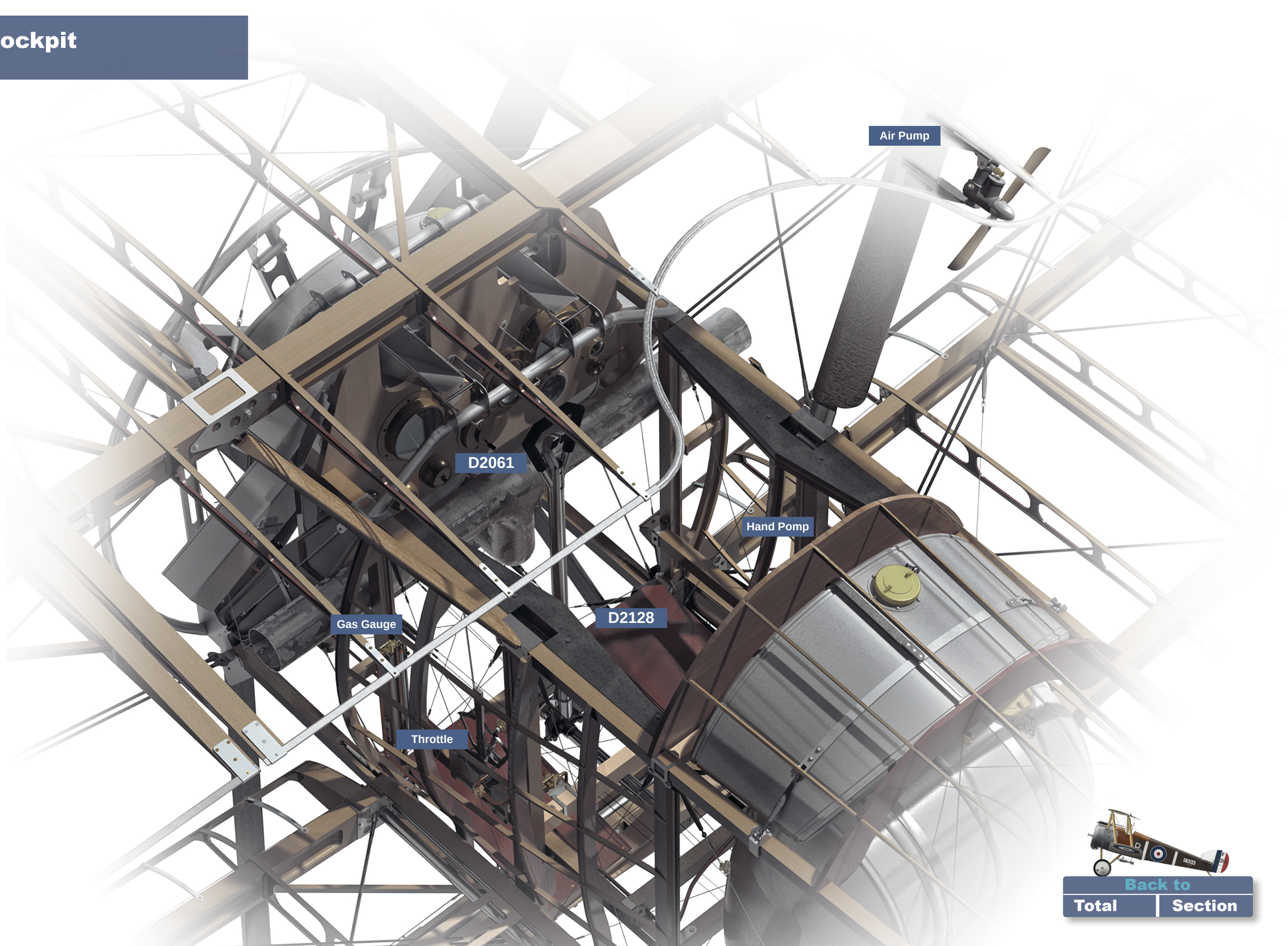
A2146
Joint Rod Pin

Mild Steel



Back to
Total | Section

Cockpit



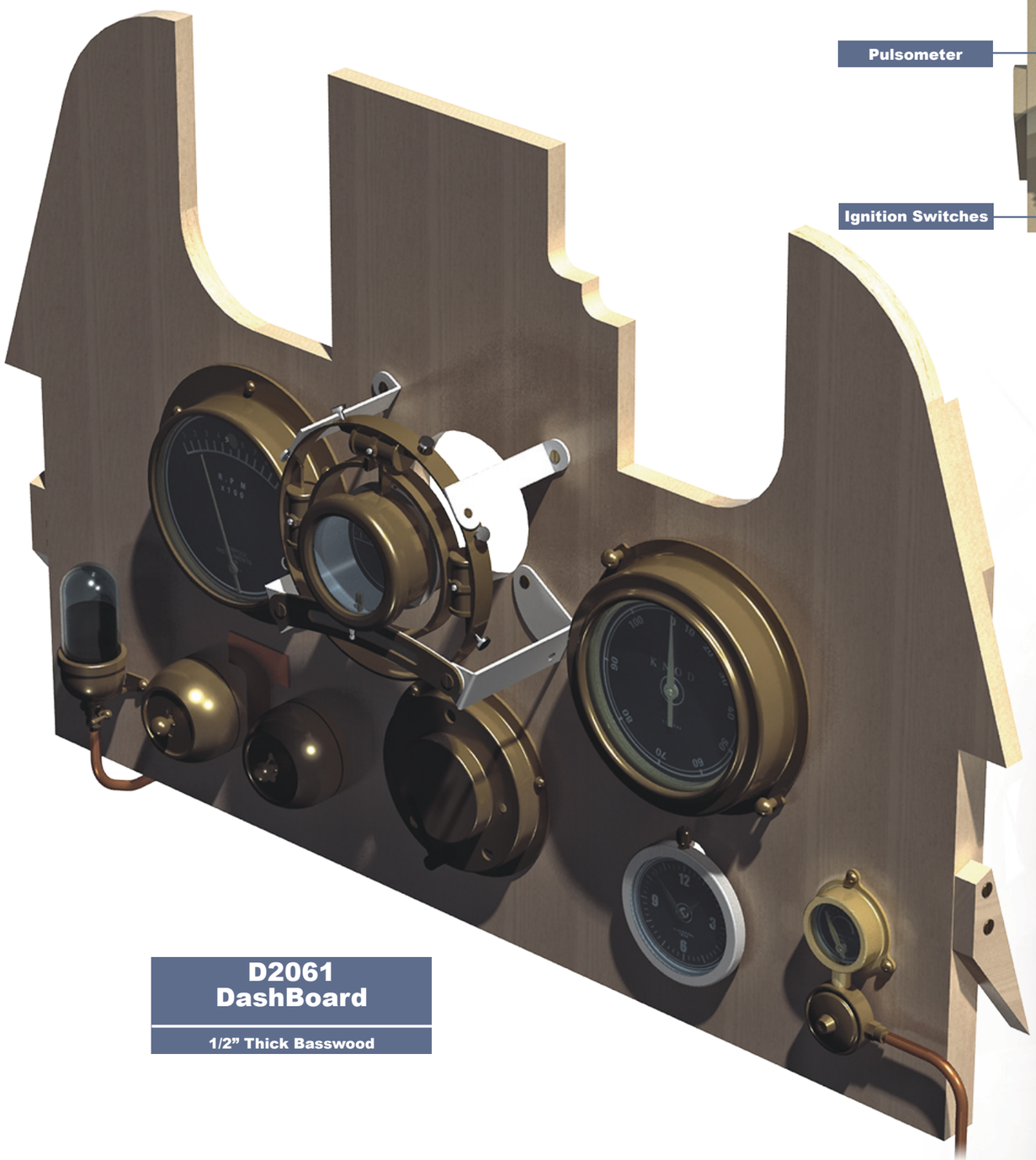
Back to
Total | Section

Fuel Guage

Durax Hand Pump

Throttle Quadrant

Back to
Total | Section



D2061
DashBoard

1/2” Thick Basswood

Back to
Total | Section

D2128
Wicker Seat

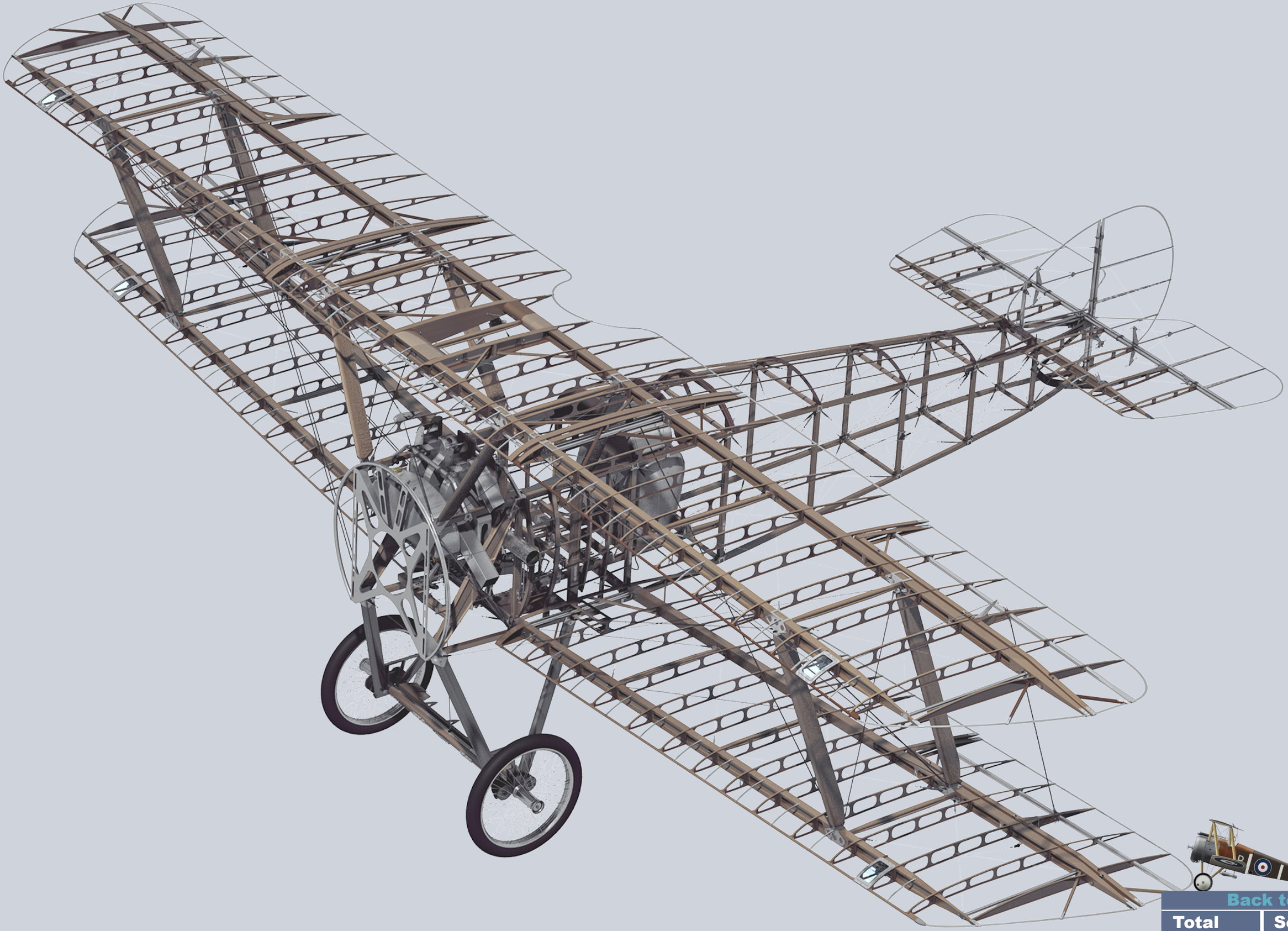
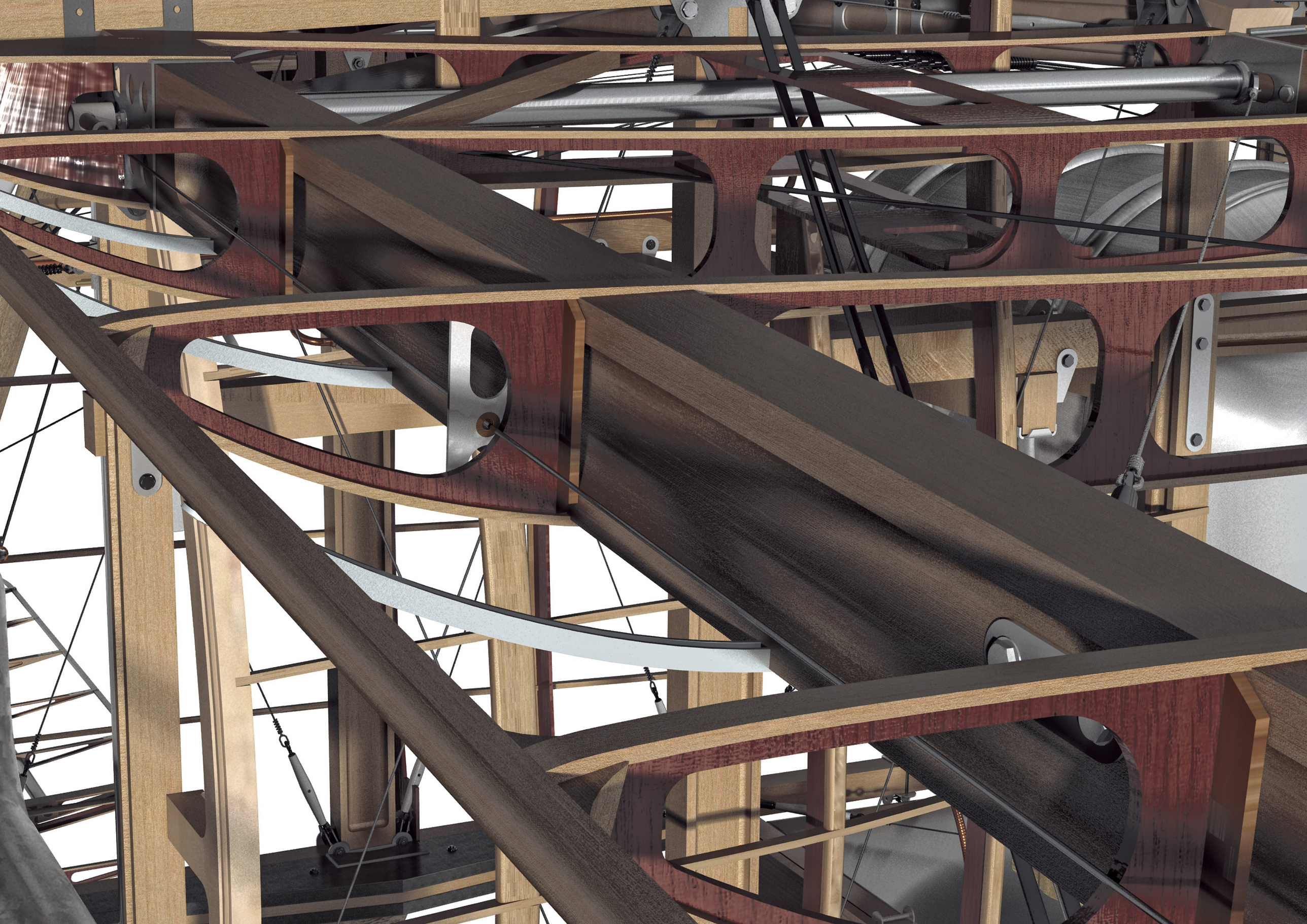
Frame 1” Cane

Rotherham Air Pump

Back to
Total | Section

Back to
Total | Section

Back to
Total | Section



Back to
Total | Section